

4. SDPS Release B Test Cases

4.1 Phase 1 Test Cases

4.1.1 Data Server Subsystem

4.1.1.1 Document Server Processing Thread (T209-10)

The following thread verifies the ability of the Document Data Server to receive, and insert into the archive, documentation in various formats.

4.1.1.1.1 Test Case 1: Document Insert Test (T209-10.01.01)

This test verifies the capability to insert documentation with a Microsoft WORD, Interleaf, and WordPerfect document format.

Test Configuration:

- Hardware: workstation
- Software: DDSRV
- Data: Microsoft WORD documents, Interleaf documents, and WordPerfect documents
- Tools: TBD document Insert Interface (real or simulated).

Test Input:

A series of Data Requests (at least two per format) are submitted to insert documentation in Microsoft WORD, Interleaf, and WordPerfect document formats.

Test Output:

Notification of successful insertion into the Data Archive.

Success Criteria:

Documentation is successfully inserted into the Document Archive Storage.

L3 Requirements:

DADS0140#B, IMS-0480#B, IMS-0490#B

L4 Requirements:

S-DSS-10202, S-DSS-10206, S-DSS-10208

4.1.1.1.2 Test Case 2: Document and Data Access Test (T209-10.01.02)

This test verifies the capability to provide qualified users access to all documents and data types

Test Configuration:

- Hardware: workstation
- Software: DDSRV
- Data: All in the document data server - Document metadata, Guide data from Version 0 in HTML and ASCII, ASCII Documents, Microsoft WORD Documents, HTML Documents, Interleaf Documents, WordPerfect Documents, Postscript Documents, and Information describing spacecraft housekeeping and ancillary data parameters (stored in the science data server)
- Tools: Client Interface (real or simulated)

Test Input:

A series of Data Requests are submitted to access the following data types and documents: document metadata, Guide data from Version 0 in HTML and ASCII, ASCII documents, Microsoft WORD documents, HTML documents, Interleaf documents, WordPerfect documents, Postscript Documents, and information describing spacecraft housekeeping, and ancillary data parameters (that are stored in the science data server).

An invalid access is submitted.

Test Output:

Notification of successful access from the Data Archive. Invalid user access request must be denied.

Success Criteria:

Documentation and data are successfully accessed from the Document Archive Storage. An error log reports invalid user requests.

L3 Requirements:

EOSD2400#B, IMS-0420#B

L4 Requirements:

S-DSS-10055

4.1.1.1.3 Test Case 3: Document Addition API Test (T209-10.01.03)

This test verifies the ability to provide application programming interfaces (API) which will support the development of extensions for additions of documents. This will be used as Guide data for DAAC-specific Data Products.

Test Configuration:

- Hardware: workstation
- Software: DDSRV

- Data: Guide data
- Tools: Guide data Interface (real or simulated)

Test Input:

Using the API, extensions are generated to allow document additions. These additions support storage of Guide data for DAAC specific Data Products.

Test Output:

Documents submitted are in Guide.

Success Criteria:

All documents submitted are in the Guide.

L3 Requirements:

EOSD0502#B, EOSD5200#B, IMS-1765#B, SCF-0290#B

L4 Requirements:

S-DSS-10230, S-DSS-10260

4.1.1.2 Media Distribution I Thread

The following thread verifies the ability to accept distribution requests for distribution of data on 3480/3490 tape media. This includes placing data on 3480/3490 tape media and generating appropriate media and shipping labels.

4.1.1.2.1 Test Case 1: 3480/3490 Tape Distribution Test (T209-20.01.01)

This test verifies the capability to distribute information on 3480/3490 tapes.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Data for 3480/3490 tape distribution.
- Tools: 3480/3490 tape drive. Interface with the 3480/3490 tape drive (real or simulated).

Test Input:

A series of data distribution requests is submitted, requesting physical media distribution on 3480/3490 tape. Operator commands are submitted to retrieve data and place the data on the media.

Test Output:

Notifications to the operators console display successful transfer of data onto media. The data requested is placed on 3480/3490 tape.

Success Criteria:

Data on the physical media when compared to data in storage, finds no significant differences.

L3 Requirements:

DADS2490#B, DADS2530#B, SDPS0100#B

L4 Requirements:

S-DSS-30460

4.1.1.2.2 Test Case 2: Media Label Generation Test (T209-20.01.02)

This test verifies the capability to generate a physical "media label" that the operations staff can apply to the media. Also, this test shall associate the individual piece of media with any other media in the distribution. This is for physical media distributions.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Media Label information
- Tools:

Test Input:

Data Requests are submitted for document distribution on media. Some requests result in multiple tape distribution.

Test Output:

Media labels are generated.

Success Criteria:

Media labels are readable and contain complete and accurate content information.

L3 Requirements:

DADS2530#B

L4 Requirements:

S-DSS-30690

4.1.1.2.3 Test Case 3: Shipping Label Generation Test (T209-20.01.03)

This test verifies the capability to generate a physical "shipping label" that the operations staff can affix to the shipping container and indicate the destination of the media. This is for physical media distributions.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Shipping Label information
- Tools: Label printer.

Test Input:

Data Requests are submitted for document distribution on media. Some requests result in multiple tape distribution.

Test Output:

Shipping labels are generated.

Success Criteria:

Shipping labels are readable and contain complete and accurate destination information.

L3 Requirements:

DADS2530#B

L4 Requirements:

S-DSS30700

4.1.1.3 Data Distribution I

The following thread verifies the capability to successfully accept and fulfill Distribution Requests. Distribution costs are generated, and distribution costs are recorded.

4.1.1.3.1 Test Case 1: Data Server and Distribution Management Interface Test (T209-30.01.01)

This test verifies that Data Server software is able to successfully provide data to the Distribution software, and that the Distribution software successfully accepts the data. The following is a list of data types to be provided by the Data Server to Distribution software:

- orbit/attitude data and metadata
- special data products and metadata
- research results (articles, algorithms, data sets, software)
- V0 migration data products and metadata
- Supply FDF attitude data for AM-1 instruments packages
- Supply L0-L4 Data
- Supply real EOS instrument data to support pre-launch checkout of the ground system

- Supply simulated EOS instrument data to support pre-launch checkout of the ground system
- Supply NMC data
- Supply First Look Products
- Supply Re analysis Products
- Supply Final Analysis Products

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Orbit/Attitude data and metadata, special data products and metadata, research results (articles, algorithms, data sets, and software), V0 migration data products and metadata, FDF attitude data for AM-1 instrument packages, L0-L4 data, Real EOS instrument data, Simulated EOS instrument data, NMC data, First look products, Re analysis products, and Final analysis products.
- Tools: EOS interface (real or simulated), NMC interface (real or simulated), PGE interface (real or simulated)

Test Input:

A series of data, data products and metadata are provided by the Data Server software to Distribution software.

Test Output:

Data, data products and metadata are accepted by Distribution software.

Success Criteria:

All data and products supplied by the Data Server are successfully sent by Data Server and successfully accepted by Distribution software.

L3 Requirements:

ASTER-0130#B, ASTER-0600#B, ASTER-0700#B, DADS0175#B, DADS180#B, DADS0282#B, DADS0440#B, DADS0465#B, DADS2330#B, DADS2340#B, DADS2345#B, DADS2360#B, DADS2370#B, DADS2380#B, DADS2390#B, DADS2430#B, IMS-0030#B, IMS-0550#B

L4 Requirements:

S-DSS-04038, S-DSS-04080, S-DSS-04082, S-DSS-04112, S-DSS-04114, S-DSS-04180, S-DSS-04190, S-DSS-04320, S-DSS-04330, S-DSS-04332, S-DSS-04340, S-DSS-04350, S-DSS-04351, S-DSS-04352, S-DSS-04353, S-DSS-04354

4.1.1.3.2 Test Case 2: Data Distribution API Test (T209-30.01.02)

This test verifies the capability to provide an application program interface (API), for the submission of Data Distribution Requests, Data Distribution Status Requests, and distribution request listings.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Data available for distribution.
- Tools:

Test Input:

Data Distribution Requests and Data Distribution Status Requests are submitted, via the API.

Test Output:

Data Distribution Request acknowledgments and Data Distribution Request status. Upon request submission, a list of the Distribution Requests submitted is retrieved.

Success Criteria:

All Distribution Requests submitted are successfully received and processed. All requests are acknowledged. Request status is returned to the requester. A listing of all request is successfully retrieved. The listing is accurate and complete.

L3 Requirements:

DADS3150#B, EOSD5110#B

L4 Requirements:

S-DSS-30770

4.1.1.3.3 Test Case 3: Data Conversion Test (T209-30.01.03)

This test verifies the capability to support additional data distribution formats and conversion software.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: New data distribution formats
- Tools:

Test Input:

A series of data are submitted to the DDIST for formatting and conversion.

Test Output:

Supports additional formats and conversion software.

Success Criteria:

For each Service Request submitted, the appropriate format or conversion software is applied.

L3 Requirements:

DADS0780#B

L4 Requirements:

S-DSS-30482

4.1.1.3.4 Test Case 4: Data Server Availability Schedule Test (T209-30.01.04)

This test verifies the capability for one Data Server to accept Data Availability Schedules from another Data Server.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Data Availability Schedule
- Tools:

Test Input:

A series of schedules submitted to the Data Server.

Test Output:

A schedule of the data availability is supplied to another Data Server.

Success Criteria:

Each schedule submitted to the Data Server is accepted by Data Availability.

L3 Requirements:

DADS2020#B, EDOS-4.1.2.2#B

L4 Requirements:

S-DSS-00732

4.1.2 Ingest Subsystem

4.1.2.1 Request Cancellation and Suspension Thread (T212-10.01)

The following tests verify the capability to suspend and resume ingest request status. Requests submitted for suspension and resumption of ingest activities is accomplished via operational commands or using an application interface.

4.1.2.1.1 Test Case 1: Operational Ingest Suspension Request Test (T212-10.01.01)

This test verifies the ability to submit operational commands to suspend an Ingest Request by an authorized requesters with a valid Ingest Request Identifier. The request is validated to confirm it is submitted by an authorized source. Monitoring of the ingest process verifies that only the ingest requests declared suspended, are suspended.

This test also verifies that an Error Log is created to track unauthorized requests, Invalid Ingest Request Identifiers, and the inability to suspend specified Ingest Requests.

Test Configuration:

- Hardware: workstation, Client Hosts, Working Storage
- Software: INGST Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest GUI Interface CSC, Ingest DBMS CSC.
- Data: Ingest data in progress
- Tools: Ingest Interface (real or simulated)

Test Input:

A series of Ingest Requests are submitted. Operational commands are submitted to suspend the request. Some suspension requests are for all Ingest Requests. Some Suspension Requests only identify certain Ingest Requests for suspension either by request id or external provider. Commands are submitted by valid and invalid sources.

Ingest Request for suspensions are made for authorized and unauthorized requesters. Ingest Request suspensions are made for valid and invalid and invalid Request Identifiers.

Test Output:

The system is monitored to determine request suspension. Requests not suspended are processed. An Error Log is maintained for Unauthorized Requesters, Invalid ingest Request Identifier, and Unable to suspend specified Ingest Request.

Success Criteria:

All Ingest Requests are successfully received. Only those Ingest Requests which are included in the Suspension Request are suspended, all other Ingest Requests are processed. Suspension Requests submitted by invalid sources and invalid Request Identifier are not accepted. An error log is created to track invalid suspension activities.

L3 Requirements:

DADS0700#B, DADS0901#B, DADS2210#B, DADS2220#B, EOSD2400#B

L4 Requirements:

S-INS-00355, S-INS-00363, S-INS-00393

4.1.2.1.2 Test Case 2: Application Ingest Suspension Request Test (T212-10.01.02)

This test verifies the ability for an application to submit an Ingest Suspension Request. The request is validated to confirm that it is submitted by an authorized source. Monitoring of the ingest process verifies that only the ingest requests declared suspended, are suspended.

This test will also verify that Error Logs document Unauthorized Requesters, Invalid Request Identifiers, and inability to suspend specified Ingest Requests.

Test Configuration:

- Hardware: workstation, Client Hosts, Working Storage
- Software: Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest GUI Interface CSC, Ingest DBMS CSC
- Data: Ingest in progress
- Tools: Ingest Operator GUI Interface (real or simulated).

Test Input:

A series of Ingest Requests are submitted. Requests are submitted via an operator GUI to suspend the Ingest request. Some suspension requests are for all Ingest Requests, some Suspension Requests only identify certain Ingest Requests for suspension either by Request ID or External Provider. Commands are submitted by valid and invalid sources and for invalid Request Identifiers.

Test Output:

The system is monitored to determine request suspension. Requests not suspended are processed. Status on Unauthorized users and Invalid Request Identifiers are reported to the Error Log.

Success Criteria:

All Ingest Requests are successfully received. Only those Ingest Requests which are included in the Suspension Request are suspended, all other Ingest Requests are processed. Suspension Requests submitted by invalid sources and from Invalid Request Identifiers are not accepted. The Error Log correctly reports Unauthorized Requesters, Invalid Request Identifiers, and the inability to suspend specified Ingest Requests.

L3 Requirements:

DADS0100#B, DADS0700#B, DADS0901#B, DADS1980#B, DADS2000#B, DADS2220#B, DADS3140#B, EOSD2400#B

L4 Requirements:

S-INS-00365, S-INS-00370, S-INS-00397

4.1.2.2 Electronic and Media Ingest Thread (T212-20.01)

Testing will demonstrate the ability to ingest instrument and spacecraft data, metadata, ancillary data, data objects and L0-L4 data. This data is monitored and checked for integrity by the system. Once the data is ingested, testers will verify its existence through examination of file directories and ingest managed lists. Data in HDF and Native formats will be ingested.

The following tests verify the capability to successfully ingest data from external data sources.

4.1.2.2.1 Test Case 1: EDC Landsat IAS and LPS FTP Test (T212-20.01.01)

This test verifies that the Ingest software is capable of ingesting data that are provided by the Landsat 7 Image Assessment System (IAS) and Landsat 7 Processing System (LPS) via ESN into the EDC DAAC using a file transfer protocol.

Test Configuration:

- Hardware: workstation, Gateway Server, ICLHW, RAID working Storage, L0 Repository
- Software: INGST CI, Gateway software
- Data:
 - LPS Data
 - Level OR (LOR) subinterval data set - ETM+ Format 1 and Format 2 (in HDF-EOS format)
 - Metadata for associated LOR data
 - Level OR Scene Browse Data
 - PVL Data Availability Notice (DAN)
 - Landsat 7 IAS Data
 - Calibration Coefficients (provided in ASCII format) for archived LOR data
 - Metadata for the associated calibration coefficients
 - PVL Delivery Record
- Tools: Landsat7 IAS and LPS Interface (real or simulated). Interface Control Document Between EOSDIS Core System (ECS) and the Landsat 7 System (209-CD-013-003).

Test Input:

A series of Ingest Data requests are submitted by IAS and LPS.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

DADS0170#B, EOSD0030#B, EOSD1607#B, EOSD1608#B, LAND-0110#B

L4 Requirements:

S-INS-00785)

4.1.2.2.2 Test Case 2: GSFC and LaRC EDOS Media Ingest Test (T212-20.01.02)

This test verifies that the Ingest software is capable of ingesting data that are provided by the EDOS on D3 media.

Test Configuration:

- Hardware: workstation, Magnetic tape drive
- Software: INGST CI
- Data: The following Production Data Sets (PDS) for the following AM-1 instruments to transmit to the LaRC DAAC: CERES, MISR, and MOPITT. The associated metadata and Parameter Value Language (PVL) Physical Media Unit Delivery Records will also be required. The following Production Data Sets (PDS) for the following AM-1 instruments to transmit to the GSFC DAAC: MODIS, associated and Parameter Value Language (PVL) Physical Media Unit Delivery Records and metadata will be required.
- Tools: EDOS Interface (real or simulated). Interface Control Document Between the Earth Observing System (EOS) Data and Operations System (EDOS) and the EOS Ground System (EGS) Elements CDRL B301, Final June 28, 1996 (TRW 2311 B301.00).

Test Input:

A series of data is submitted on media.

Test Output:

Media is mounted and accessed. Data is retrieved from the media and written to the staging disk.

Success Criteria:

For every Ingest Request the data is successfully copied and placed on the staging disk.

L3 Requirements:

DADS0130#B

L4 Requirements:

S-INS-00600, S-INS-00610

4.1.2.2.3 Test Case 3: EDC ASTER GDS Media Ingest Test (T212-20.01.03)

This test verifies that the Ingest software is capable of ingesting data that are provided by the EDC on D3 media.

Test Configuration:

- Hardware: workstation, 3D cartridge tape reader
- Software: INGST CI
- Data: AM-1 ASTER Level 1a and Level 1b data in HDF-EOS format, Physical Media DANs, associated metadata, ancillary data, and browse Data. (All data must be provided on 3D cartridge.) A Data Shipping Notice is required to transmit to Ingest via e-mail from ASTER GDS.
- Tools: AM-1 ASTER Interface (real or simulated) to EDC. Interface Control Document Between EOSDIS Core System (ECS) and ASTER Ground Data System (209-CD-002-003).

Test Input:

A series of data is submitted on media.

Test Output:

Media is mounted and accessed. Data is retrieved from the media and written to the staging disk.

Success Criteria:

For every Ingest Request the data is successfully copied and placed on the staging disk.

L3 Requirements:

DADS0200#B, SDPS0020#B

L4 Requirements:

S-INS-00790

4.1.2.2.4 Test Case 4: EDC Landsat 7 IGS Test (T212-20.01.04)

This test verifies that the Ingest software is capable of ingesting data that are provided by the Landsat 7 International Ground Systems (IGSs) to EDC DAAC on 8mm cartridge tape.

Test Configuration:

- Hardware: workstation, small 8mm tape stacker
- Software: INGST CI
- Data: Landsat7 IGS Delivery Record (one for each tape delivered), IGS Inventory Metadata (two samples), and IGS Browse (two samples).

- Tools: Landsat7 IGS Tape contain data (real or simulated). Interface Control Document Between EOSDIS Core System and the Landsat7 System (209-CD-013-003).

Test Input:

A series of data is submitted on 8mm cartridge tape.

Test Output:

Media is mounted and accessed. Data is retrieved from the 8mm cartridge tape and written to the staging disk.

Success Criteria:

For every Ingest Request the data is successfully copied and placed on the staging disk.

L3 Requirements:

DADS0170#B, EOSD0030#B, EOSD1607#B, EOSD1608#B, LAND-0090#B, LAND-0100#B

L4 Requirements:

S-INS-00787

4.1.2.2.5 Test Case 5: EDOS Expedited Data Type Determination Test (T212-20.01.05)

This test verifies that Ingest has the ability to determine the expedited data type provided by EDOS that is ingested via ftp into the GSFC and LaRC DAACs. EDOS ingests data into an ECS DAAC using a Polling with Delivery Record (DR) interface.

Test Configuration:

- Hardware: Ingest Client and Server workstations, EDOS Client workstation
- Software: INGST, STMGT
- Data: TBD EDOS Expedited data, metadata and DRs.
- Tools: None

Test Input:

Several DRs corresponding to expedited data are placed in the agreed upon ECS DAAC poll locations at the EDOS.

Test Output:

Expedited data are ingested and ftp'd onto the ECS DAAC staging disk and the data type is determined from the DR for each expedited data.

Success Criteria:

For all expedited data, the data type is correctly determined and the granule file(s) are successfully ftp'd to the ECS DAAC staging disk.

L3 Requirements:

EOSD1030#B

L4 Requirements:

S-INS-00083

4.1.2.3 Modal Operational Thread (T212.30.01)

The following tests verify the capability to successfully perform ingest operations when operating in either an off-line mode or test mode. If ingesting data presents a problem, faults are detected and fault messages are generated. Testing will demonstrate the ability to monitor status for the following: off-line test mode ingest operations and fault detection.

4.1.2.3.1 Test Case 1: Ingest Off-line Mode Test (T212-30.01.01)

This test verifies that the user can execute Ingest functions simultaneously in off-line (test mode) and operational mode (from the same workstation and from different workstations). This test will also verify that data integrity is maintained regardless of which mode the system is processing. The Ingest applications will be verified to ensure that the application can register within their mode-associated namespace in the Communication Subsystem (CSS) name server prior to application execution. A mode identifier will be incorporated for CSS name service lookups for the application to run in test mode. The Ingest will be verified to ensure that the mode identifier in the activity log records entries for cost and accounting data.

Test Configuration:

- Hardware: Ingest Client and Server workstations, Landsat 7 LPS Client workstation, Working Storage
- Software: INGST, STMGT, CSS Gateway
- Data: DAN, data and associated metadata for Ingest.
- Tools: Landsat 7 LPS interface driver

Test Input:

From a valid system user, simultaneously start Ingest processing in operational and test modes on the same workstation. In both modes, data must be available for processing requests. Initiate Ingest Requests in both modes.

Repeat the test bringing up the test mode on a different workstation than the operational mode is utilizing.

Test Output:

The Ingest subsystem must be brought up in both operational and test modes. Both modes of the Ingest subsystem must be registered within their mode-associated namespace in the CSS nameserver. Output must be received from the Ingest that are running in operational and test

modes. Data is successfully ingested in both modes. Cost and accounting data must be logged with mode identification.

.Successful Criteria:

The CSS name server shows successful initialization and concurrent execution of the Ingest subsystem in both the test and operational modes. Data integrity is maintained. Upon user Ingest Request data are ingested. Data is available for archive and storage. The activity log will contain entries for cost and accounting data with mode identification.

L3 Requirements:

DADS0281#B, EOSD4100#B, EOSD0510#B, EOSD0630#B, EOSD0710#B, SDPS0140#B.

L4 Requirements:

S-INS-03200, S-INS-03210, S-INS-03300, S-INS-03310, S-INS-03320, S-INS-03330, S-INS-03340, S-INS-03350, S-INS-03360

4.1.2.3.2 Test Case 2: Fault Detection and Isolation Capabilities Test (T212-30.01.02)

This test verifies on-line (operational mode) and off-line(test mode) fault detection and isolation capabilities using HP OpenView. This test will require the support of HTSC personnel.

Test Configuration:

- Hardware: Ingest Client and Server workstations, MSS workstation
- Software: INGST, HP OpenView
- Data: None
- Tools: None

Test Input:

The Ingest subsystem is started in the operational mode configuration. Ingest subsystem hardware is taken off-line either by disconnecting hardware or by using UNIX utilities and commands to terminate processes. The Ingest subsystem is started in the test mode configuration. Ingest subsystem hardware is taken off-line either by disconnecting hardware or by using UNIX utilities and commands to terminate processes.

Test Output:

Faults are detected, isolated and properly recorded. Fault notifications are displayed to screen.

Success Criteria:

Faults are detected, isolated and recorded in a log. Complete and accurate fault notifications are displayed to screen.

L3 Requirements:

L4 Requirements:

S-INS-60660

4.1.2.5 Intermediate Ingest and Data Server Build Test (B212.01)

Testing will demonstrate the ability to ingest instrument and spacecraft data and associated metadata, ancillary data, data objects and L0-L4 data. These test cases will also ensure the ability to pass this data along to the science data server.

This testing will also demonstrate that the Ingest system operates in Off-line/Test Mode in that same manner it operates nominally. Off-line testing will ensure that data ingest will be suspended upon operator request, and all active ingest requests will continue until the processing is complete.

4.1.2.5.1 Test Case 1: Electronic and Media Ingest and Archive Scenario Test (B212.01.01)

This test verifies that the Ingest subsystem is capable of electronically (via File Transfer Protocol) ingesting Landsat7 Image Assessment System (IAS) data and is capable of ingesting AM-1 data from the ASTER GDS and EDOS on media (8mm and 3D tape). This test scenario ensures that Ingest subsystem can read the data into the system, extract and validate metadata, and send the validated data on to the Science Data Server subsystem where the data is archived.

Test Configuration:

- Hardware: Ingest Client and Server workstations, Science Data Server Client and Server workstations, Working and Archive Storage and tape drives
- Software: INGST, SDSRV, STMGT
- Data: The following DANs, data, and associated Metadata are needed for this test case:

| <u>Mission/Data Origin</u> | <u>Instrument Data</u> | <u>DAAC destination</u> |
|----------------------------|--|-------------------------|
| Landsat7 | ETM+, Calibration Coefficient Information w/ Metadata Update | EDC |
| AM-1 | ASTER - 3D media | EDC |
| | CERES - 8mm | LaRC |
| | MISR - 8mm | LaRC |
| | MODIS - 8mm | GSFC |
| | MOPITT - 8mm | LaRC |

- Tools: None

Test Input:

A series of Ingest Data Requests are submitted by the Landsat7 IAS and by the ASTER GDS and EDOS. The Landsat 7 data is ingested electronically and the AM-1 data are ingested via tape (8mm and 3D).

Test Output:

Valid data is accepted and placed on staging disk. The data is preprocessed and an insert request is sent to the Science Data Server. The core metadata is inserted into the Science Data Server inventory database and the science data is inserted into the archive storage. Advertisements are created for the data.

Success Criteria:

For each Ingest Request the data is successfully accepted and placed on the staging disk. The data is successfully preprocessed and placed into the Science Data Server archive storage. Advertisements are created for the new data.

L3 Requirements:

DADS0120#B, DADS0130#B, DADS0140#B, DADS0145#B, DADS0170#B, DADS0190#B, DADS0200#B, EOSD0030#B, EOSD1607#B, EOSD1608#B, LAND-0090#B, LAND-0100#B, LAND-0110#B, SSPS0020#B

L4 Requirements:

S-DSS-03002, S-INS-00600, S-INS-00610, S-INS-00785, S-INS-00787, S-INS-00790

4.1.2.5.2 Test Case 2: Off-line/Test Mode Suspension Scenario Test (B212.01.02)

This test verifies that the Ingest software is capable of suspending an active or all active Ingest Requests via an authorized user in Off-line/Test Mode. This test will process more than one Ingest Request in off-line (test mode). Valid Suspension Requests will be initiated, and Suspension Requests initiated by an invalid user will also be checked. Ingest Request Identifiers will also be validated.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: Ingest requests from the following:

| <u>Mission/Data Origin</u> | <u>Instrument Data</u> | <u>DAAC destination</u> |
|----------------------------|------------------------|-------------------------|
| Landsat7 | ETM+ | EDC |
| AM-1 | ASTER | EDC |

Associated ICDs as needed for the above data types.

- Tools: Landsat7 and AM-1 Interfaces (real or simulated)

Test Input:

In Off-line/test mode, a series of data ingest requests are initiated. The Landsat7 IAS data are ingested electronically and the AM-1 data are ingested via a 3D tape. After the ingest processing is initiated, an authorized user sends a valid Suspend Request to suspend one or all Ingest Requests. An unauthorized user sends an invalid Suspend Request to suspend one or all Ingest Requests (invalid request consists of an unauthorized requester or an invalid Ingest Request Identifier).

Test Output:

An error log is created of all unauthorized suspension requesters, Invalid Ingest Request Identifier and the inability to suspend a specific Ingest Request.

Error-free Suspension Requests terminate the ingest processing for the specified Ingest Request (based upon the valid Ingest Request Identifier). All other requests must continue processing.

Success Criteria:

All Ingest Requests are successfully received. Only those Ingest Requests which are included in the Suspension Request are suspended. All remaining Ingest Requests are processed. An error log tracks all invalid Suspension Requests.

L3 Requirements:

DADS0281#B, DADS0700#B, DADS0901#B, DADS2210#B, DADS2220#B, EOSD2400#B, EOSD4100#B

L4 Requirements:

S-INS-00355, S-INS-00363, S-INS-00393, S-INS-03200, S-INS-03210

4.1.3 Client Subsystem

4.1.3.1 Distributed Client Thread IA (T222-31.01)

This thread will demonstrate verification of user comment submittal and retrieval, retrieval of account balances and history, displaying and handling of event notifications, and service request processing. The general workbench functions to be tested include; displaying and submitting documentation; displaying policies and procedures; saving and restoring data searches and order forms; command language interfaces; and the displaying of interrupt messages. The capability of user to use a web terminal to access the ECS system and display meaningful error messages is verified.

4.1.3.1.1 Test Case 1: User Comments (T222-31.01.01)

This test verifies the user's ability to submit and retrieve comments. The user can access the user comments window from any window on the desktop. The user will successfully enter and submit comments. Comments can be retrieved based on author, subject and date/time once they have been submitted.

Test Configuration:

- Hardware: Workstations
- Software: Comment/Survey Tool, Desktop Manager
- Data: User comment data
- Tools: Xrunner, SMC User Comments driver

Test Input:

Initiate the user comments window from any window on the desktop. Fill in the comments form and submit comments. Initiate the retrieval of user comments based on author, subject, date, and time.

Test Output:

Comments are verified and sent to the SMC. Comments are retrieved and displayed.

Success Criteria:

Comments are successfully entered and sent to the SMC. Responses are displayed to the user. Comments retrieved and displayed match the criteria stated in the retrieving process.

L3 Requirements:

IMS-1645#B, SDPS0091#B

L4 Requirements:

S-CLS-11100, S-CLS-11110, S-CLS-11120, S-CLS-14200

4.1.3.1.2 Test Case 2: Account Balance/History (T222-31.01.02)

This test verifies that the user can obtain current account balances and display their account history.

Test Configuration:

- Hardware: Workstation
- Software: Workbench, Desktop Manager, MSS Billing and Accounting Application Service
- Data: Billing and accounting data
- Tools: Xrunner, billing and accounting driver

Test Input:

Populated account information is present in the billing and accounting application service. Request current account balance. Requests for other user's information are attempted. Request account history. Requests for other user's information are attempted.

Test Output:

Current account balance is received and displayed. Requests for other user's information are rejected. Response messages are displayed. Account history from MSS is received and displayed by the requesting client. Requests for other user's history information are rejected. Response messages are displayed.

Success Criteria:

Account balances are current and match what is present in the billing and accounting application service provided by MSS. A user can not access another user's information. Account histories match what is present in the billing and accounting application service provided by MSS. A user can not access another user's information.

L3 Requirements:

IMS-1300#B, IMS-1360#B, IMS-1370#B

L4 Requirements:

S-CLS-11080, S-CLS-11090

4.1.3.1.3 Test Case 3: Web Terminal Interface (T222-31.01.03)

This test verifies the web terminal interface. The web terminal interface has minimal and consistent use of non-standard keys; standardized use of commands and terminology across screens; user access to saved contents of menus and forms; the ability to display an accurate menu tree diagram; and system access from local and remote terminals. The menu tree diagram will be updated to represent the current files. The web terminal interfaces have the capability to use a command language. The web terminal can access text information as plain text documents.

Test Configuration:

- Hardware: Local and Remote workstation
- Software: Desktop Manager
- Data: N/A
- Tools: XRunner

Test Input:

Log onto the ECS system. Start the ECS web interface. Create and save menus and forms. Retrieve the menus and forms. Use non-standard keys. Display a number of screens. List and issue commands. Display the menu tree diagram. Remove and create files. Redisplay the menu tree diagram. Issue commands using a command language. Log onto the ECS system using the web interface from remote terminal. Submit a number of service requests from local and remote terminals. Access text information.

Test Output:

The menus and forms are displayed when retrieved. Valid non-standard keys are accepted. Invalid non-standard keys are rejected. Screens are displayed. Command lists are displayed and valid commands are accepted. Invalid commands are rejected. A menu tree diagram is

displayed. Valid commands are accepted. Invalid commands are rejected. Service requests are accepted and initiated. Text documents are displayed.

Success Criteria:

The menus and forms displayed are the same as those previously saved. Use of non-standard keys is consistent across web interfaces. Non-standard keys that are accepted are at a minimum. Commands and terminology are standard across web terminal interface screens. The menu tree diagram accurately reflects the files and services available. The diagram also correctly updates when there are changes to the desktop. Command language entries are allowed. Local and remote terminals have access to a web interface. Text information is successfully displayed as a plain text document.

L3 Requirements:

IMS-0100#B, IMS-0110#B, IMS-0120#B, IMS-0260#B, IMS-0415#B, IMS-0500#B

L4 Requirements:

S-CLS-12810, S-CLS-12820, S-CLS-12830, S-CLS-12850, S-CLS-12860, S-CLS-12870, S-CLS-13300

5.1.3.1.4 Test Case 4: ChUI Terminal (T222-31.01.04)

Requirement will be deleted. ROM #96-0352 and 96-0630.

4.1.3.1.5 Test Case 5: Error Messages (T222-31.01.05)

This test verifies that web terminal interfaces have self-explanatory error messages.

Test Configuration:

- Hardware: Workstation
- Software: Workbench, Desktop Manager, Web interface
- Data: N/A
- Tools: XRunner

Test Input:

Initiate a number of web interfaces. Create situations to invoke error messages.

Test Output:

Web terminal interfaces are initiated. Error messages are displayed.

Success Criteria:

The appropriate error messages are displayed and are self-explanatory.

L3 Requirements:

IMS-0120#B

L4 Requirements:

S-CLS-12840

4.1.3.1.6 Test Case 6: Submit Software and Documentation (T222-31.01.06)

This test verifies that a user can display documentation on data formats and metadata standards. Users can also submit software and documentation. Documents can be submitted to the guide.

Test Configuration:

- Hardware: Workstation
- Software: Workbench, Desktop Manager, Document Search Tool
- Data: Software and documentation to submit.
- Tools: Xrunner, science data driver

Test Input:

Display documentation on data formats and metadata standards. Submit documents to the guide. Software and related documentation is stored on the user's local system. Submit software and documentation.

Test Output:

Documentation on data formats and metadata standards is displayed. Documents are submitted to the guide. Software and related documents are submitted. Response messages are received.

Success Criteria:

Documentation on data formats and metadata standards is available and can be displayed. Documents are successfully submitted to the guide. Software and related documentation is successfully submitted. Appropriate response messages are displayed.

L3 Requirements:

IMS-0260#B, IMS-0480#B, IMS-0490#B, IMS-0500#B

L4 Requirements:

S-CLS-10880, S-CLS-12908, S-CLS-15980

4.1.3.1.7 Test Case 7: Display ESDIS Project Policies & Procedures (T222-31.01.07)

This test verifies that a user can display ESDIS project policies and procedures.

Test Configuration:

- Hardware: Workstation
- Software: Desktop Manager, Document Search Tool

- Data: ESDIS Project Policies and Procedures
- Tools: Xrunner, MSS driver

Test Input:

Display ESDIS project policies and procedures.

Test Output:

ESDIS project policies and procedures are displayed.

Success Criteria:

ESDIS project policies and procedures are available and can be displayed.

L3 Requirements:

IMS-0500#B

L4 Requirements:

S-CLS-10890

4.1.3.1.8 Test Case 8: Save and Restore Searches and Forms (T222-31.01.08)

This test verifies that a user can access saved contents of data searches and order forms. The ECS desktop and workbench tools are used to display and save data searches and order forms. The data searches and order forms previously saved will be retrieved.

Test Configuration:

- Hardware: Client Workstation
- Software: Desktop Manager, Earth Science Search Tool, Product Request Tool
- Data: Contents of previous data searches and order forms, valid values data
- Tools: Xrunner, Data Dictionary driver, Data Server driver

Test Input:

Log onto the ECS system, create and save data searches and order forms. Close data searches and order forms. Retrieve the data searches and order forms.

Test Output:

Data searches are displayed, saved, and then closed. Order forms are displayed, saved, and then closed. The data searches and order forms are displayed when retrieved.

Success Criteria:

The data searches and order forms displayed are the same as those previously saved.

L3 Requirements:

IMS-0120#B

L4 Requirements:

S-CLS-12070

4.1.3.1.9 Test Case 9: Interface with Command Language (T222-31.01.09)

This test verifies the ability to use a command language.

Test Configuration:

- Hardware: Workstation
- Software: Workbench, Desktop Manager
- Data: N/A
- Tools: XRunner

Test Input:

Initiate the ECS desktop. Issue valid and invalid commands to search for data using a command language available from the desktop.

Test Output:

The desktop displayed. Valid commands are accepted. Invalid commands are rejected.

Success Criteria:

Command language entries are allowed. Valid commands are successfully accepted.

L3 Requirements:

IMS-0100#B, IMS-0120#B, IMS-0260#B

L4 Requirements:

S-CLS-12110

4.1.3.2 Distributed Client Thread 1b (T222-32.01)

This thread will demonstrate the verification of the API's ability to provide for DAAC-unique services and specific data analysis utilities. The ability of a web interface to access all valid value lists is also verified.

4.1.3.2.1 Test Case 1: DAAC-Unique Services (T222-32.01.01)

This test verifies that APIs will be provided that are capable of supporting the development of a local user interface that can support development of a DAAC interface for searching services and also bypass the delivered ECS user interface for accessing DAAC-unique metadata searching and access services.

Test Configuration:

- Hardware: Client workstation

- Software: Desktop Manager, DAAC unique application
- Data: N/A
- Tools: Xrunner

Test Input:

Add a new application.

Test Output:

The new application is added. The application's icon appears on the desktop.

Success Criteria:

A new application can be added to the ECS desktop.

L3 Requirements:

IMS-1765#B

L4 Requirements:

S-CLS-13040, S-CLS-13050, S-CLS-15880

4.1.3.2.2 Test Case 2: DAAC Specific Data Analysis (T222-32.01.02)

This test verifies that APIs will be provided to support the additional of DAAC specific data analysis utilities.

Test Configuration:

- Hardware: Workstation
- Software: Desktop Manager, DAAC data analysis utility
- Data: N/A
- Tools: Xrunner, DAAC data analysis utility

Test Input:

Add the DAAC unique utility to the ECS Desktop. Launch the utility.

Test Output:

The icon for the DAAC unique utility is displayed on the ECS Desktop. The utility window is displayed.

Success Criteria:

The DAAC unique utility can be launched.

L3 Requirements:

IMS-1765#B

L4 Requirements:

S-CLS-15870

4.1.3.2.3 Test Case 3: Web Terminal Valid Values (T222-32.01.03)

This test verifies that with Valid Value lists for all attributes can be accessed via the ECS Web interface.

Test Configuration:

- Hardware: Client workstation
- Software: Desktop Manager, Netscape Navigator
- Data: Valids list data, hardcopy list of Valid Values
- Tools: Xrunner, Valids data driver

Test Input:

Display attribute lists. Display the Valid Value lists for selected attributes.

Test Output:

Attribute lists and Valid Value lists are displayed.

Success Criteria:

The specified Valid Value lists are successfully displayed. Only the correct values for each attribute are listed for that attribute.

L3 Requirements:

IMS-0120#B

L4 Requirements:

S-CLS-13260

4.1.4 Data Management Subsystem

4.1.4.1 Enhanced Data Services Thread I (T231-10)

This thread will focus on some the data services administrative functions such as manual recoveries, automatic recoveries and backups. Appropriate logging will be recorded and tested. Application programming interfaces for submission of request for administrative functions for LIM, DIM, advertising and gateways will be tested. This test will also provide the capabilities for application programming interfaces for service request submissions.

Testing will be performed to verify that the system has the capability to accept subscriptions from clients. Along with subscription requests will be specification of a well-defined advertised event and the actions to be triggered upon its occurrence such as deleting subscriptions, adding subscriptions and updating subscriptions.

4.1.4.1.1 Test Case 1: On-line full and Incremental Backup (T231-10.01.01)

The following test will verify that authorized user's capability to perform on-line full backup and incremental backups. All the data dictionary service operations that will be performed before the recovery, such as executing several data/service searches and browsing through the available advertisements will be recorded.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Enter full backup and incremental backup data command.

Test Output:

Fully backed-up data dictionary service database and incremented back-up of data dictionary service database. Administrative log contains an entry for the above function.

Success Criteria:

This test is considered successful if all the on-line full backup files have been backup up completely and all the incremented backup files have been backed-up also.

L3 Requirements:

IMS-0220#B, IMS-0230#B, IMS-0240#B.

L4 Requirements:

S-DMS-20300, S-DMS-20310.

4.1.4.1.2 Test Case 2: Manual and Automatic Recovery (T231-10.01.02)

The following tests the authorized user's capability to perform manual recovery and automatic recovery of Data Dictionary services data from media. This test verifies the capability to recover the data dictionary upon disk failure. While accessing the data dictionary, the tester induces a disk failure. Recovery procedures are initiated to restore the data dictionary from the backup created. The user is able to complete the interrupted operation after the recovery is

complete. Unintentional interruption through system software or hardware failures are also induced to verify that no loss of information occurs.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Use the latest backup data to perform manual and automatic recovery. Simulate system failure. Data dictionary transaction, tester induced disk failure, recovery procedures.

Test Output:

Fully restored Data Dictionary service database after recovery. The disk failure is discovered, alarms generated, event logs updated.

Success Criteria:

This test is considered successful if all the files and screens have been restored back on to the system. The data dictionary recovery procedures are executed and the initiated transaction is completed after recovery procedures are executed successfully. Verification is made by comparing backed information with the latest.

L3 Requirements:

IMS-0230#B, IMS-0240#B, IMS-0250#B, IMS-0320#B.

L4 Requirements:

S-DMS-20320, S-DMS-20330, S-DMS-20640.

4.1.4.1.3 Test Case 3: Import and Export functions (T231-10.01.03)

The following tests the authorized user's capability to perform data import and exports. The import and export utility will be used to import and export data dictionary data to a file. Other exports will include accepting export files from data server, LIM, DIM and export dependent valid values to ESDIS IMS.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

From the data administrative utility, enter import and export commands for accepting export files from data server, LIM and DIM.

Test Output:

Imported and exported DD data from data server, LIM, DIM and dependent valid values to ESDIS IMS.

Success Criteria:

This test is considered successful if the exported files have been accepted from the data server, LIM and DIM. Also, imported and exported files are saved. Dependent valid values are exported to ESDIS IMS.

L3 Requirements:

IMS-0210#B, IMS-0320#B, IMS-0240#B, V0-0380#B.

L4 Requirements:

S-DMS-20160, S-DMS-20170, S-DMS-20180, S-DMS-20340, S-DMS-20350,
S-DMS-20930.

4.1.4.1.4 Test Case 4: Thesaurus for DD entries (T231-10.01.04)

This test verifies the capability for the DD to provide thesaurus of data dictionary entries. If the user wants to know the detailed entry, he can go into the thesaurus to get that information.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.

- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

From user interface. Select thesarus from the menu.

Test Output:

This will display a thesarus of all the DD entries.

Success Criteria:

This test is deemed successful if a thesarus of all the DD entries are returned to the user. This thesarus will be displayed with the appropriate information in relation to the data dictionary entries.

L3 Requirements:

IMS-0320#B.

L4 Requirements:

S-DMS-21020

4.1.4.1.5 Test Case 5: Administration Utility for Performance (T231-10.01.05)

This test verifies the capability for the DD to provide administrative utility to handle performance, memory management, monitoring of system disk, CPU and input/output functions. Other performance monitoring include service request processing and performance tuning. This test will also test access control functions. The accuracy and effectiveness of the performance monitoring and tuning utilities will be verified by comparing the results with results obtained by test tools available at the time of testing. These tools will include XRunner and LoadRunner.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface.

- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

From user interface. Bring up the administrative utility for performance, CPU, system disk, memory, service request processing, tuning and input/output. Select each one of the performance functions and access control functions.

Test Output:

Utility is displayed with performance options such as CPU, system disk, memory, service request processing, tuning and input/output., memory options and access control.

Success Criteria:

The performance measured during the execution of this test will be recorded and compared with the performance results obtained from LoadRunner and other UNIX performance monitoring tools available at the time of test execution. This test will be considered successful if the performance obtained from the Administrative Performance Utilities is identical to the statistics reported by the test tools.

L3 Requirements:

IMS-0240#B, IMS-1660#B, IMS-0210#B.

L4 Requirements:

S-DMS-20260, S-DMS-20270, S-DMS-20280, S-DMS20290.

4.1.4.1.6 Test Case 6: Set Thresholds (T231-10.01.06)

This test verifies the tester ability to set the threshold for the number of results returned from a query. The test will be able to define the number of results returned at a time.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Application Programming Interface. Enter the number of results returned from a query. Perform a query.

Test Output:

The number of results returned from a query is identical to the results received after query.

Success Criteria:

This test is considered successful when the number of results returned from the query is identical to the queried results.

L3 Requirements:

IMS-0660#B.

L4 Requirements:

S-CLS-15950.

4.1.4.1.7 Test Case 7: Subscription Administrative Test (T231-10.01.07)

The following test demonstrates the ability to support the creation of subscriptions, cancel, renew, update and list the contents of subscription including standing requests. Other subscription request are as follows:

- Periodic delivery of data described by advertising.
- On-demand processing of ECS data by pre-existing processes.
- Distribution of ECS data.

Other subscription functions include being able to update, terminate and modify subscriptions for on demand processing.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, WKBCH CI, DESKT CI.
- Data: Various data types are ingested to support new data arrival as indicated in the subscription, schema information, package information request, search request, search results, Data Dictionary Service Database

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

From GUI interface. Select option to create, cancel, renew, update, list and submit subscription request for periodic delivery of data or On-demand processing

Test Output:

Subscriptions are deleted, created, canceled, renewed, updated, listed and submitted as per request for periodic delivery of data or On-demand processing. Administrative log reflects an entry for the above function.

Success Criteria:

This test is considered successful when the subscription request functions create, cancel, renew, update, list and submissions are all met for periodic deliveries, on-demand processing and distribution of ECS data.

L3 Requirements:

IMS-0740#B, IMS-0670#B, IMS-0920#B, IMS-0980#B, IMS-0950#B

L4 Requirements:

S-CLS-10950, S-CLS-11000, S-CLS-11250, S-CLS-11260, S-CLS-11270, S-CLS-10280, S-CLS-11280

4.1.4.1.8 Test Case 8: Service Request Submission API (T231-10.01.08)

The following test demonstrates the ability for the system to provide application programming interface for submission of service requests by the LIM, DIM, GATEWAY, advertising services, and data dictionary.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAIServer, LIMGR CI, Advertising Client Tool, Data Server Interface, WKBCI CI, DESKTI CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Application Programming Interface. Send a service request for LIM, DIM, Gateway, data dictionary and advertising services.

Test Output:

Service request sent to destination. LIM, DIM, data dictionary, gateway and advertising service log contains an entry for the successful submission of service request.

Success Criteria:

This test is considered successful when the service request is sent to the respective destinations.

L3 Requirements:

EOSD5210#B, IMS-1765#B.

L4 Requirements:

S-DMS-00900, S-DMS-10900, S-DMS-21000.

4.1.4.1.9 Test Case 9: Administrative Service Request Submissions API (T231-10.01.09)

The following test demonstrates the ability for the system to provide application programming interface for submission of requests for administrative services by the LIM, DIM, GATEWAY, advertising services, and data dictionary.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMS Server, AdvWAIS Server, LIMGR CI, Advertising Client Tool, Data Server Interface, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Application Programming Interface. Send an administrative service request for LIM, DIM, Gateway, data dictionary and advertising services.

Test Output:

Administrative service request sent to destination. LIM, DIM, data dictionary, gateway and advertising service log contains an entry for the successful submission of administrative service request.

Success Criteria:

This test is considered successful when the administrative service request is sent to the respective destinations.

L3 Requirements:

EOSD5020#B, IMS-1765#B.

L4 Requirements:

S-DMS-00910, S-DMS-10910, S-DMS-21010

4.1.4.2 Local Information Manager Service Thread 1A (T231-31.01)

This thread will focus on LIM functions. LIM provides access to data and services offered by different data servers at an ECS site. There may be one or more data server residing at a single site. The LIM processes queries which involve access to data, which resides on two or more servers. Upon receipt of a query request, the LIM validates the query and generates a query plan. Using the schema, the LIM locates the data servers to satisfy the query request. The query results are displayed. Testing will also be performed to manipulate the data defined in the LIM schema.

4.1.4.2.1 Test Case 1: LIM Schema Test (T231-31.01.01)

This test verifies that the LIM will support the following :

- Data administration utility for adding, deleting, modifying and expanding individual schema
- Support of revisions of its local schema following schema changes in data server.
- Storage, maintenance and data management services for ECS local schema.
- Creation of integrated schema from exported schematas.
- Accept service request, find and retrieve a schema entry from an integrated schema.
- Support Interactive Information Management to retrieve Information.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Add, delete, modify and expand existing data or field of the schema using administration utility. View local schema. Create an integrated schema from exported schematas. Retrieve a schema entry from an integrated schema.

Output:

New data and field or existing data and field are added, deleted or modified to the LIM schema and are accessible to the user community. Administration log contains an entry for the change to the LIM schema. Storage of added schema is reflected in the local schema. Integrated schema is created. Schema entry is retrieved from integrated schema.

Success Criteria:

This test is deemed successful when the local schema contains changes made such as additions, updates, deletions and expansions. Revisions made to the schema are also stored and maintained. Integrated schema is created and schema entry is retrieved from integrated schema.

L3 Requirements:

IMS-0210#B, IMS-0220#B, IMS-0240#B, IMS-0250#B, IMS-02620#B, IMS-0355#B, IMS-0560#B

L4 Requirements:

S-DMS-00220, S-DMS-00270, S-DMS-00280, S-DMS-00030,
S-DMS-00290, S-DMS-00180.

4.1.4.2.2 Test Case 2: Partial Results Integration (T231-31.01.02)

This test verifies the capability to view partial results from search results and test the capability to integrate partial results within those data servers represented in its local schema.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Log onto the ECS system. View partial results from search results. Integrate those partial results by combining them together.

Output:

Partial results are displayed. Partial results are also integrated within those data servers.

Success Criteria:

This test is deemed successful when the partial results are integrated within those data servers represented. This test will also verify that partial results can be obtained upon request.

L3 Requirements:

IMS-0560#B, IMS-0665#B.

L4 Requirements:

S-DMS-00230, S-DMS-00740.

4.1.4.2.3 Test Case 3: Data Granule Search by Science Disciplines (T231-31.01.03)

This test verifies that a user can perform a search for data granule of EOSDIS data stored for all data servers. The tester performs a search on a selected data granule. The search result package is verified against search criteria. This test will also verify the ability to search and obtain data by science disciplines via the LIM environment

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

User interface. Perform search request for data granules of EOSDIS data stored for all data servers. Also select option to search and obtain data by science disciplines. Generate a query for a known science discipline.

Output:

All data available for the selected search request will be displayed. The known data from the specified science discipline is displayed to the tester.

Success Criteria:

The search result package contains all the data granules of EOSDIS data stored for all the data servers. The data granules will be compared against the search request made. Also a query of science discipline is also displayed.

L3 Requirements:

IMS-0030#B, IMS-0610#B.

L4 Requirements:

S-DMS-00010, S-DMS-00300.

4.1.4.3 Local Information Manager Service Thread IB (T231-32.01)

This thread will focus on other LIM functions. The goal of the LIM is to provide access to a site while hiding the underlying details of the site architecture. The LIM accepts search and data access requests and issues these to other search agents (such as Science Data Servers). Science Data Servers make themselves available to the LIM by exporting their schema information to the Data Dictionary. An operator adds the Science Data Server to the LIM federation using the Data Dictionary Tool. The LIM makes itself available to DIM by exporting its schema to the Data Dictionary service. The LIM will also provide access to all the Science Data Servers at a DAAC as well as access to the V0 Gateway.

This thread will test databases replication, site query plans, integrate and decompose searches, multiple service requests, single service request, and resource estimation.

4.1.4.3.1 Test Case 1: Database Replication (T231-32.01.01)

This test will also verify that databases that have been distributed and replicated will be synchronized with existing data. Verification of the LIM and DIM internal databases are expressed in ESQL format will also be verified.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Copy or send primary database from one primary server to destination server. View the contents of the destination database. View primary database and backup database.

Output:

Primary database and backup databases contain the same data. The databases are also expressed in ESQL format.

Success Criteria:

This test is deemed successful when the primary database is replicated and the destination database contains the primary database information. The database are all in synch. The databases are also expressed in ESQL format.

L3 Requirements:

IMS-0220#B, IMS-0290#B.

L4 Requirements:

S-DMS-00210, S-DMS-01050, S-DMS-10610, S-DMS-11050.

4.1.4.3.2 Test Case 2: Build Site Query Plan Test (T231-32.01.02)

This test verifies that the LIM can accept a search request in the format defined in appendix A of the ECS requirement document 304. Testing is performed to verify that the search request is in conformance. This test also verifies the capability to build a site query plan for a particular site.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Scientist workbench. View a search request. Compare the format of a search request with the format compatible with earth Science query language. Scientist workbench. Select option to build a site query plan. Generate a query for a known site.

Output:

The search request is displayed in a specified format. The site query plan is displayed.

Success Criteria:

The search request is in the same format as the Earth Science Query Language. The queried data by site is the only data displayed.

L3 Requirements:

IMS-0560#B, IMS-0630#B, IMS-0650#B, IMS-0550#B.

L4 Requirements:

S-DMS-00020, S-DMS-00040, S-DMS-00050.

4.1.4.3.3 Test Case 3: Integrate and Decompose Search Test (T231-32.01.03)

This test verifies the ability to integrate search results from a previous search request. This test also verifies the ability to decompose a search request received into executable database queries. This test will also support a search request against result sets from previous searches within the same session

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Select option to integrate search results from a previously search request. Select option to decompose search request into executable database query.

Output:

The search results are integrated from previous search requests. The search requests are decomposed into executable database queries such as searching for a particular data type.

Success Criteria:

The search results from previous search requests are integrated. Search request is decomposed into executable database query.

L3 Requirements:

IMS-0560#B, IMS-0575#B, IMS-0570#B.

L4 Requirements:

S-DMS-00100, S-DMS-00115, S-DMS-00550.

4.1.4.3.4 Test Case 4: Multiple Service Request (T231-32.01.04)

This test verifies that multiple service request can be within a session. Testing will be checked to confirm that multiple service request exist within a session.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

User Interface. Open several service request within that session.

Output:

Several service request appear within one session.

Success Criteria:

This test is deemed successful when several service request appear within a session.

L3 Requirements:

IMS-0140#B.

L4 Requirements:

S-DMS-00895.

4.1.4.3.5 Test Case 5: LIM Single Service Request (T231-32.01.05)

This test verifies that the LIM is capable of resume, suspend and terminating the process of an active service request or a previously suspended service request. This test will also verify that the tester can send notification to users via email in the event that the user request is cancelled.

Test Configuration:

Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.

Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.

Data: schema information, package information request, search request, search results

Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

User Interface. Execute command to resume, suspend and terminate the process of an active or previously suspended service request. Also initiate command to send email to user after user request is cancelled.

Output:

The specified active service request is suspended, terminated or a previously suspended service request is resumed. LIM log contains an entry for each successful function. Email is also sent to user and received by user upon cancellation of user request.

Success Criteria:

This test is deemed successful when previously suspended service request are resume, active service request are either terminated or suspended. Email is also sent to user after request cancellation.

L3 Requirements:

IMS-0560#B, IMS-1300#B, IMS-0140#B.

L4 Requirements:

S-DMS-00130, S-DMS-00140, S-DMS-00150, S-DMS-00990, S-DMS-00260,
S-DMS-00110.

4.1.4.3.6 Test Case 6: LIM Resource Estimation (T231-32.01.06)

This test demonstrated the capability to estimate the resources required to execute a pending service. Resources needed by LIM will be estimated based upon the size and complexity of the pending service.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.

- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

From the user interface. Select option to estimate resource required to execute a service.

Output:

Estimated resources are automatically chosen

Success Criteria:

Estimated resources are chosen for the selected pending service

L3 Requirements:

IMS-0560#B.

L4 Requirements:

S-DMS-00160.

4.1.4.4 Distributed Information Manager Service Thread I (T231-40.01)

The DIM provides access to data and services accessible from repositories distributed across a wide-area network. The DIM decomposes requests and executes the component parts to LIM, Science Data Servers (SDSRV), and/or GTWAYs. The LIMGRs, SDSRVs, and GTWAYs make themselves accessible to the DIMGR by exporting schema information to the DDICT and making services available through the Advertising Service. The access paths possible by a DIM is configured by an operator using both the Data Dictionary Maintenance Tool and the DIM Configuration tool. The Distributed Information Manager receives and coordinates requests for data and services from several loosely coupled provider sites. It provides clients with access to the following services objects: distributes query request, distributed access request, request result, client session, distributed schema, and Local Information Manager (DIM) federation.

The DIM will accept requests to initiate, suspend, resume and terminate client sessions; manage distributed queries or access requests; inquire about the status of these request; produce both complete and incomplete results; and update its internal schema.

The DIM uses a schema which is federated from schemata at the underlying service providers (e.g. DIM). After the DIM accepts a request from a client, it acts as an agent for that client and assumes complete responsibility for execution of the query and compilation of the results.

A DIM does not execute requests on its own, but it determines how they should be executed. This is called a distributed query plan. The plan specifies the services which the DIM must

invoke, including any operations which the DIM may need to perform to combine or collate the results. The DIM will execute the plan, monitor its progress, and compile and manage the results for the requesting client. The client can disconnect from the DIM and reconnect later to determine the status of a query, obtain partial result, or cancel the query.

4.1.4.4.1 Test Case 1: Subscription Changes Test (T231-40.01.01)

This test case will test LIM and DIM's capability to accept subscriptions for LIM and DIM data for changes to LIM schema. Subscriptions to advertising services for any additions or deletions of LIMs from its federation will also be tested. An Interface will be provided to perform the additions, deletions, replacements and retrieval of LIM from the federation. based on subscription notifications from advertising services.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Interface for LIM additions, deletions, retrieval and modification of LIM from the federation based on advertising subscription. Select subscription to LIMs for any changes to LIM schemata. Select subscription to advertising service for any additions or deletions of LIM from its federation. Add/delete LIM to or from its federation.

Test Output:

LIM and DIM accepts subscriptions for LIM and DIM data for changes to LIM. The advertising service subscription for any additions or deletions of LIMs from its federation has also been submitted for subscription. LIM is deleted or added to or from the DIM federation. Administrative log contains an entry for the above function.

Success Criteria:

This test is considered successful when a response is received saying subscription to LIM and advertising has been submitted. LIM has also be deleted, added, replaced or retrieved to or from the DIM federation. The interface for addition, deletion, replacement or retrieval have been performed. Appropriate error messages must also be generated for incorrect entries made by users when performing the above functions.

L3 Requirements:

IMS-0670#B, IMS-0560#B, IMS-0575#B.

L4 Requirements:

S-DMS-01070, S-DMS-11070, S-DMS-10190, S-DMS-10200, S-DMS-10210, S-DMS-10220, S-DMS-10260, S-DMS-S-DMS-10270, S-DMS-10280, S-DMS-10290.

4.1.4.4.2 Test Case 2: Integrate Partial Results (T231-40.01.02)

This test will perform search request against result sets from previous searches. This test will also verify the capability to integrate partial results within those LIMs represented in its federated schema into a result set. This partial results will be provided upon request which will include the latest results from the start of the request to the last request.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools : Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Log onto the ECS system. Perform a search request against the result sets of previous searches. View partial results from search results. Integrate partial results by combining them together.

Test Output:

Partial results are displayed consisting of results from the start of the request. Partial results are integrated within those LIMs.

Success Criteria:

This test is deemed successful when the search request displays partial results with latest results from the start of the request to the last request. Partial results are also integrated.

L3 Requirements:

IMS-0560#B, IMS-0665#B, IMS-0570#B.

L4 Requirements:

S-DMS-10110, S-DMS-10115, S-DMS-10760.

4.1.4.4.3 Test Case 3: Cross DAAC Granule Search (T231-40.01.03)

This test verifies the ability to accept and execute and search data request across DAACs. Testing is performed to verify that the search request is implemented. The tester generates a data search on data granules specifying which granule. After the search result package has been received, the tester prints the data list and verify that the data granules contains only data related to the search provided and that no extraneous data is included.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Scientist workbench. Select option to search and obtain data across. Enter search request. Execute search request.

Test Output:

The search request is displayed to the user.

Success Criteria:

The expected search request is displayed with the data list for the specified data granule information.

L3 Requirements:

EOSD5100#B, IMS-0030#B, IMS-0550#B, IMS-0870#B, IMS-0560#B, IMS-0610#B.

L4 Requirements:

S-DMS-10010, S-DMS-10020, S-DMS-10310.

4.1.4.4.4 Test Case 4: Generate Distributed Query Plan (T231-40.01.04)

This test verifies the ability to build a distributed query plan and monitor the progress for a particular site. This test will be performed by submitting several search requests. This search request will be forwarded to LIMs or data servers to perform the appropriate functions.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Scientist workbench. Select option to build a distributed query plan and view the progress of the plan..

Test Output:

The distributed query plan is being viewed and finally generated

Success Criteria:

The expected distributed query plan is displayed while its being queried and its finally generated.

L3 Requirements:

IMS-0550#B, IMS-0575#B, IMS-0290#B, IMS-0550#B, IMS-0560#B, IMS-0575#B, IMS-0790#B.

L4 Requirements:

S-DMS-10030, S-DMS-10040, S-DMS-10050.

4.1.4.4.5 Test Case 5: DIM Time Operations Test (T231-40.01.05)

This test demonstrates the capability to abort any time intensive operation. If for any reason a particular operation is taking too long, the administrator or user depending on what kind of access privileges it has, can abort that operation. This test will also verify the completion of incomplete transactions without loss of data. This will be achieved by running a particular process and killing the DIM and restarting the DIM in the middle of the transaction.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.

- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Perform a DIM distributed search such as searching data by across DAACs. Abort the operation at any time. Kill and restart the DIM transactions in the middle of the search.

Test Output:

The operation is aborted upon user's request. Upon restart of the DIM, the transaction is continued without loss of data. This can be verified by running another separate transaction without restarting the DIM and compare those results.

Success Criteria:

The search request is aborted as per user. The test is deemed successful if both transactions are similar.

L3 Requirements:

IMS-0665#B, IMS-0240#B, IMS-0250#B.

L4 Requirements:

S-DMS-10100, S-DMS-10120, S-DMS-10460.

4.1.4.4.6 Test Case 6: DIM Summary Report Test (T231-40.01.06)

This test verifies the ability to for operations staff to create utilization reports and distribute them electronically or via electronic media. This report will be sent to appropriate destinations through the network by the DIM or via an electronic media such as 4mm. Other reports include capability to generate daily DIM operations summary reports and performance summary reports.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, , LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

From the science workbench. Enter command to generate daily DIM operations summary reports, performance summary reports and utilization reports. Retrieve utilization report. Specify location to be distributed to through the network or store utilization report on to electronic media. Distribute electronic media manually to other specified location

Test Output:

Utilization report is generated. Report distributed to specified location as per request. message log indicates distribution.

Success Criteria:

This test is deemed successful when all the daily summary reports and performance summary reports are generated. The utilization reports are also generated with all the utilization data. Report is retrieved and distributed to specified location. Receipt of report by the other location is verified by confirming receipt. Report is also stored onto electronic media.

L3 Requirements:

IMS-1680#B, IMS-1690#B, IMS-1700#B.

L4 Requirements:

S-DMS-10555, S-DMS-10556, S-DMS-10385, S-DMS-10386.

4.1.4.4.7 Test Case 7: DIM Instrument Inventory Search Response Time (T231-40.01.07))

This test verifies that DIM will contribute to the response time as specified in a single instrument inventory search, multiple instrument inventory search, single instrument inventory result set and multiple instrument inventory result set consisting of multiple DAAC within time range check or special range check and integrating the results and providing a complete result set.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Entries of single and multiple instruments inventory search and result set are repeatedly tested to verify the performance requirement.

Test Output:

Performance statistics information

Success Criteria:

This test is deemed successful when DIM contributes to the response time as specified in a single instrument inventory search, multiple instrument inventory search, single instrument inventory result set and multiple instrument inventory result set consisting of multiple DAAC within time range check or special range check and integrating the results and providing a complete result set. Performance response timing are met.

L3 Requirements:

IMS-1780#B.

L4 Requirements:

S-DMS-10470, S-DMS-10480, S-DMS-10490, S-DMS-10500.

4.1.4.5 Enhanced Data Dictionary Thread IA (T231-51.01)

The objectives of the enhanced data dictionary thread 1 is to demonstrate that the data dictionary can accept data types in any combination, metadata attribute, and product specific metadata. The data dictionary will also decompose the search requests, receive a data administrative request from the data administrator, maintain valid values for data elements, where the data has an enumerated set of values as a constraint. Access to the lists of the valid values for data elements, where the data has an enumerated set of values as a constraint.

4.1.4.5.1 Test Case 1: Send and Accept Request Test (T231-51.01.01)

This test verifies that the data dictionary will accept and send requested information such as earth science data type descriptions, core metadata attribute definitions and product specific metadata attribute back to the science workbench.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system and invoke the GUI for data dictionary tool. Send an information request consisting in combination of Earth Science data types, core metadata attribute and product specific metadata.

Test Output:

The request for information will be accepted by DD. The requested information will be received and displayed at the user scientist workbench.

Success Criteria:

The user at the scientist workbench can view the requested information at the appropriate scientist workbench.

L3 Requirements:

IMS-0320#B, IMS-0630#B, IMS-0650#B

L4 Requirements:

S-DMS-20130, S-DMS-20140

4.1.4.5.2 Test Case 2: Decompose Search Request (T231-51.01.02)

The following tests will verify the capability to

- Decompose the search requests into executable data base queries
- Receive a data administrative request from the data administrator

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Server Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Log onto the ECS system. Invoke the data dictionary GUI. Send a search request. Send the data administrator's requests. Select data server as the medium.

Output:

The client (data dictionary GUI) receives the response of the administrator's request. The client (data dictionary GUI) receives output of the search request from a server.

Successful Criteria:

The data dictionary server receives the administrator's request. The data dictionary server decomposes the search request into executable data bases queries. Note: The decomposition of the data base search requests into executable data base queries is transparent to the user.

L3 Requirements:

IMS-0560#B, IMS-0575#B, IMS-0240#B, IMS-1195#B

L4 Requirements:

S-DMS-20240, S-DMS 20880

4.1.4.5.3 Test Case 3: Valid Values for Data Elements (T231-51.01.03)

This test verifies that the data dictionary will be capable of verifying the following:

- Maintain valid values for data elements, where the data has an enumerated set of values as a constraint.
- Access to the lists of the valid values for data elements, where the data has an enumerated set of values as a constraint.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Log onto the ECS system. Invoke the data dictionary GUI. Enter several data base queries with valid and invalid data values for data elements.

Output:

The data dictionary (client) will receive the correct response of the data base queries with valid data values (constraint). The data dictionary (client) will receive the response with errors for the data base queries with invalid data values (constraint).

Success Criteria:

The valid data values used in the data base queries are from the enumerated set of values as a constraint in the data dictionary configuration.

L3 Requirements:

EOSD2400#B, IMS-0230#B, IMS-0350#B, IMS-0120#B,

L4 Requirements:

S-DMS-20890, S-DMS 20910

4.1.4.6 Enhanced Data Dictionary Thread IB (T231-52.01)

The objectives of the enhanced data dictionary thread 1 is to demonstrate that the data dictionary can store a mapping of geophysical parameters to the appropriate instruments and collections, store descriptive information about keywords associated with a collection and search a descriptive information about keywords associated with a collection. The data dictionary will also verify the capabilities to view the data dictionary entries based on Earth Science data types through different means such as the data server, LIM and DIM. In addition, it will verify the capability to define DD context based on science discipline, site and information view.

4.1.4.6.1 Test Case 1: Geophysical Parameter Functions (T231-52.01.01)

This test verifies the following functionalities:

- Store a mapping of geophysical parameters to the appropriate instruments and collections
- Search a mapping of geophysical parameters to the appropriate instruments and collections
- Store descriptive information about keywords associated with a collection.
- Search a descriptive information about keywords associated with a collection.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Log onto the ECS system. Invoke the data dictionary GUI. Enter geophysical parameters for the appropriate instruments. Enter search requests for a mapping of geophysical parameters to the appropriate instruments and collections. Also enter search requests for a descriptive information about keywords associated with a collection.

Output:

Geophysical parameters for the specified instruments will be accepted. Responses of the search requests for a mapping will returned to the user. Response of the search requests for a descriptive information about keywords will be returned to the user.

Success Criteria:

The data dictionary stores the correct mapping of geophysical parameters to the appropriate instrument and collection . The user receives a valid mapping of geophysical parameters to the appropriate instrument and collection. The user receives a valid descriptive information about keywords associated with a collection.

L3 Requirements:

IMS-0510#B

L4 Requirements:

S-DMS-20006, S-DMS-20007, S-DMS-20008, S-DMS-20009

4.1.4.6.2 Test Case 2: DD Entries (DS/LIM/DIM) (T231-52.01.02)

This test will verify the administrator's capabilities to view the data dictionary entries based on Earth Science data types through different means such as the data server, LIM and DIM. In addition, it will verify the capability to view data dictionary schema and to define a global view of DD entries based on Earth Science data types.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Logs onto the ECS system and invoke the GUI for data dictionary tool. Select view DD entries. Select an earth science data type. Select data server, LIM and DIM at a time as the medium.

Test Output:

Data dictionary entries based on earth science data types will be displayed. Administration log contains access to viewed entries based on earth science data types through the data server, LIM and DIM.

Success Criteria:

The user views the entries based on specified earth science data types through the data server, LIM and DIM. The DD schema is provided. Event log contains the entries for query initiated and results provided. Data access log is updated. Data dictionary entries based on earth science data types will be defined. Administration log contains definition of global view of DD entries based on earth science data types through the data server

L3 Requirements:

IMS-0320#B, IMS-0210#B, IMS-0550#B

L4 Requirements:

S-DMS-20030, S-DMS-20040, S-DMS-20050, S-DMS-20120, S-CLS-14580,
S-DMS-20010

4.1.4.6.3 Test Case 3: Global DD Entries Test (T231-52.01.03)

This test will verify the capability of data dictionary:

- Define a global view of DD entries based on Earth Science data types.
- Define DD context based on science discipline, site and information.
- Define global DD contexts.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Server Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

- Log onto the ECS system and invoke the GUI for data dictionary tool.
- Select data server as the medium.
- Define several DD entries (with variation within DD entries) based on Earth Science data types.
- Define DD context based on science discipline, site and information.
- Define global DD context.

Test Output:

- Several Global views of DD entries based on earth science data types will be defined.
- DD context based on science discipline, site and information will be defined.
- Global DD context will be updated.
- Administration log contains definition of global view of DD entries based on earth science data types through the data server.

Success Criteria:

The global view is defined based on specified earth science data types through the data server. View of DD entries, based on the value given for an attribute, will be consistent. The new summary information is properly entered and is accessible by the user community. Global DD Context is defined. Administration log contains record of the definition of global DD context.

L3 Requirements:

IMS-0210#B, IMS-0320#B, IMS-0230#B

L4 Requirements:

S-DMS-20060, S-DMS-20090, S-DMS-20110, S-DMS-20070, S-DMS-20080

4.1.4.7 Gateway Thread IA (T231-61.01)

The objective of the V0 gateway thread is to provide a bi-directional gateway between ECS, National Oceanic and Atmospheric Administration (NOAA) Satellite Active Archives (SAA) and the Version 0 (V0) systems. This thread enables V0 IMS users to query ECS database, and enables users of the ECS Client Subsystem to query V0 database.

4.1.4.7.1 Test Case 1: Inventory Search Test (T231-61.01.01)

This test verifies the following gateway capabilities using the V0 system protocols:

- Send inventory search requests from ECS to V0 IMS.
- Receive inventory search results at ECS from V0 IMS.
- Send inventory search requests from ECS to NOAA SAA.
- Receive inventory search results at ECS from NOAA SAA.
- Send inventory search requests from NOAA SAA to V0 IMS.
- Receive inventory search results at V0 IMS from NOAA SAA.
- Translate ECS protocols into V0 system protocols
- Support two way level 2 or 3 catalog interoperability, as defined by the CEOS for the interface between the ECS and NOAA SAAs.
- Support two way level 3 catalog interoperability, as defined by the CEOS for the interface between the ECS and V0.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application

- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Logon to the ECS, V0 IMS and NOAA SAA systems. Using the GUIs, external interface (simulated) and the V0 system protocol, perform the following operations:

- Submit inventory search requests from ECS to V0 IMS.
- Receive inventory search results at ECS from V0 IMS.
- Submit inventory search requests from ECS to NOAA SAA.
- Receive inventory search results at ECS from NOAA SAA.
- Submit inventory search requests from NOAA SAA to V0 IMS.
- Receive inventory search results at V0 IMS from NOAA SAA.

Test Output:

- The ECS will submit inventory search requests to V0 IMS.
- The ECS will receive inventory search results from V0 IMS.
- The ECS will submit inventory search requests to NOAA SAA.
- The ECS will receive inventory search results at ECS from NOAA SAA.
- The NOAA SAA will submit inventory search requests to V0 IMS.
- The V0 IMS will receive inventory search results from NOAA SAA.
- The gateway will update the log.

Success Criteria:

- The ECS successfully submits inventory search requests to V0 IMS.
- The ECS successfully receives inventory search results from V0 IMS.
- The ECS successfully submits inventory search requests to NOAA SAA.
- The ECS successfully receives inventory search results at ECS from NOAA SAA.
- The NOAA SAA successfully submits inventory search requests to V0 IMS.
- The V0 IMS successfully receives inventory search results from NOAA SAA.
- The successful transmission of messages between ECS and V0 systems implies that ECS protocol successfully converted messages for V0 system and vice versa.

- The successful transmission of messages between ECS and NOAA SAA system implies that the gateway supported two-way level 2 or 3 catalog interoperability, as defined by the CEOS for the interface between the ECS and NOAA SAAs.
- The successful transmission of messages between ECS and V0 system implies that the gateway supported two-way level 3 catalog interoperability, as defined by the CEOS for the interface between the ECS and V0.
- The gateway log contains a valid entry for each request.

L3 Requirements:

IMS-0620#B, IMS-0625#B, V0-0060#, V0-0070#, IMS-0860#B, IMS-0870#B

L4 Requirements:

S-DMS-30310, S-DMS-30320, S-DMS-30650, S-DMS-30640, S-DMS-30660, S-DMS-30670, S-DMS-30550, S-DMS-30560, S-DMS-30570, S-DMS-30760

4.1.4.7.2 Test Case 2: Browse Request Test (T231-61.01.02)

This test verifies the following gateway capabilities using the V0 system protocols:

- Send browse requests from ECS to V0 IMS
- Receive browse results from V0 IMS to ECS
- Receive browse requests at ECS from NOAA SAA
- Send browse requests from ECS to NOAA SAA
- Receive browse requests at ECS from the NOAA SAA

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Log onto the V0 IMS and ECS systems. Using the V0 GUI and external interface (simulated), submit browse requests from ECS to NOAA SAA and V0 IMS. Receive browse request at ECS from NOAA SAA and V0 IMS. Receive browse results at ECS from NOAA SAAs.

Test Output:

- ECS will send the browse requests to V0 IMS
- ECS will receive browse results from V0 IMS
- ECS will receive browse requests from NOAA SAA
- ECS will send browse requests to NOAA SAA
- ECS will receive browse requests from NOAA SAA
- The gateway will update the log.

Success Criteria:

- The ECS successfully sends the browse requests to V0 IMS
- The ECS successfully receives the browse results from V0 IMS
- The ECS successfully sends the browse requests to NOAA SAA.
- The ECS successfully receives the browse requests from NOAA SAA
- The ECS successfully receives the browse requests from NOAA SAA
- The gateway log contains a valid entry for each request.

L3 Requirements:

IMS-0620#B, IMS-0625#B, IMS-0860#B, V0-0100#B, V0-0110#B and NOAA0300#B

L4 Requirements:

S-DMS-30340, S-DMS-30345, S-DMS-30680, S-DMS-30690 and S-DMS-30695

4.1.4.7.3 Test Case 3: Product Request Test (T231-61.01.03)

This test verifies the following gateway capabilities using the V0 system protocols:

- Send product requests to V0 IMS
- Send product requests to NOAA SAA
- Receive product delivery status from NOAA SAA
- Send product delivery status requests to NOAA SAA
- Receive product requests from NOAA SAA
- Send product delivery status to NOAA SAA
- Receive product delivery status requests from NOAA SAA
- Send product availability queries to NOAA NMC

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Log onto the V0 IMS and NOAA systems. Using the V0 GUI and external interface (simulated), perform the following operations :

- Submit product requests to V0 IMS
- Submit product requests from ECS to NOAA SAA
- Receive product delivery status from NOAA SAA
- Submit a product delivery status request to NOAA SAA
- Submit an ECS product request from NOAA SAA to ECS
- Submit a product delivery status from ECS to NOAA SAA
- Submit product delivery status request from NOAA SAA to ECS
- Submit product availability queries from ECS to NOAA NMC

Test Output:

- ECS will submit product requests to V0 IMS
- ECS will submit product requests to NOAA SAA
- ECS will receive product delivery status from NOAA
- ECS will submit a product delivery status request to NOAA
- NOAA will submit an ECS product request to ECS
- ECS will submit a product delivery status to NOAA
- NOAA will submit a product delivery status request to ECS
- ECS will submit product availability queries to NOAA NMC
- The gateway will update the log.

Success Criteria:

- ECS successfully submits a product request to V0 IMS

- ECS successfully submits a product request to NOAA SAA
- ECS successfully receives a product delivery status from NOAA
- ECS successfully submit a product delivery status request to NOAA
- NOAA successfully submits an ECS product request to ECS
- ECS successfully submits a product delivery status to NOAA
- NOAA successfully submits a product delivery status request to ECS
- ECS successfully submits a product availability query to NOAA NMC
- The gateway log contains a valid entry for each request.

L3 Requirements:

IMS-0620#B, IMS-0625#B, IMS-0915#B, IMS-1290#B, IMS-0860#B, IMS-0880#B, IMS-0780#B, NOAA0720#B, V0-0120#B

L4 Requirements:

S-DMS-30350, S-DMS-30700, S-DMS-30710, S-DMS-30720, S-DMS-30730, S-DMS-30740, S-DMS-30750, S-DMS-31150

4.1.4.7.4 Test Case 4: Inventory Search Test (T231-61.01.04)

This test verifies the following gateway capabilities using the V0 system protocol:

- Send authentication requests from ECS to National Oceanic and Atmospheric Administration (NOAA) Satellite Active Archives (SAA)
- Receive user authentication information from NOAA SAAs to ECS.
- Send authentication information from ECS to NOAA SAA (non ECS).
- Receive cost estimate requests at ECS from NOAA SAA.
- Send ancillary data requests from ECS to NOAA NMC.
- Estimate the resources required to execute a pending service request

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Log onto the ECS and NOAA SAA system. Using the GUIs, external interface (simulated) and the V0 system protocols, perform the following operations:

- Submit authentication requests from ECS to NOAA SAA.
- Submit authentication information from ECS to NOAA SAA (non ECS)
- Submit cost estimate requests from ECS to NOAA SAA
- Receive cost estimate requests at ECS from NOAA SAA
- Submit ancillary data requests from ECS to NOAA NMC

Test Output:

- ECS will submit an authentication requests to NOAA SAA.
- ECS will submit an authentication information to NOAA SAA
- ECS will submit a cost estimate request to NOAA SAA
- ECS will receive the cost estimate request at ECS from NOAA SAA
- ECS will submit an ancillary data request to NOAA NMC
- The gateway will update the log.

Success Criteria:

- ECS successfully sends an authentication requests to NOAA SAA.
- ECS successfully sends an authentication information to NOAA SAA
- ECS successfully sends a cost estimate request to NOAA SAA
- ECS successfully receives the cost estimate request from NOAA SAA
- ECS successfully sends an ancillary data request to NOAA NMC
- The log contains a valid entry for each request.

L3 Requirements:

IMS-0560#B, IMS-0620#B, IMS-0860#B, NOAA0300#B, NOAA0330#B, NOAA0340#B, NOAA0700#B

L4 Requirements:

S-DMS-30620, S-DMS-30630, S-DMS-31060, S-DMS-31090, S-DMS-31140, S-DMS-30600, S-DMS-30610, S-DMS-30160

4.1.4.7.5 Test Case 5: Guide Query Test (T231-61.01.05)

This test verifies the following gateway capabilities using the V0 system protocols:

- Send guide queries from ECS to NOAA SAA
- Send guide query results to NOAA SAA
- Send guide search requests from ECS to V0 IMS
- Send guide search results from V0 IMS to ECS

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Log onto the ECS, V0 IMS and NOAA SAA systems. Using the GUI and external interface (simulated) and the V0 system protocol, perform the following operations:

- Submit guide queries from ECS to NOAA SAA
- Submit guide query results to NOAA SAA
- Submit guide search requests from ECS to V0 IMS
- Submit guide search results from V0 IMS to ECS

Test Output:

- ECS will send guide queries to NOAA SAA
- ECS will send guide query results to NOAA SAA
- ECS will send guide search requests to V0 IMS
- V0 IMS will send guide search results to ECS
- The gateway will update the log.

Success Criteria:

- The ECS successfully sends guide queries to NOAA SAA
- The ECS successfully sends guide query results to NOAA SAA
- The ECS successfully sends guide search requests to V0 IMS
- The V0 IMS successfully sends guide search results to ECS

- The gateway contains a valid entry for each request.

L3 Requirements:

V0-0080#B, V0-0090#B, NOAA0210#B, NOAA0230#B

L4 Requirements:

S-DMS-31100, S-DMS-31120, S-DMS-31160, S-DMS-31190

4.1.4.8 Gateway Thread IB (T231-62.01)

The objective of the V0 gateway thread is to provide a bi-directional gateway between ECS, National Oceanic and Atmospheric Administration (NOAA) Satellite Active Archives (SAA) and the Version 0 (V0) systems. This thread enables V0 IMS users to query ECS database, and enables users of the ECS Client Subsystem to query V0 database.

4.1.4.8.1 Test Case 1: DAR Parameter Test (T231-62.01.01)

This test verifies the following capabilities:

- Maintain Data Acquisition Request (DAR) and ASTER DAR parameters
- Maintain DAR and ASTER DAR parameters constraints.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Log onto the ECS system.

Submit a request from ECS to display DAR and DAR limit provided by EOC and external Instrument Operations Facilities. A DAR is a service request that specifies the collection of data associated with a specified instrument(s).

Submit a request from ECS to display ASTER DAR parameters and ASTER DAR parameters constraints provided by EOC and external Instrument Operations Facilities.

Test Output:

The ECS workstation will display the requested parameters. The data dictionary tool will update the log.

Success Criteria:

The data dictionary at ECS allows the user to view the valid responses of the DAR and ASTER DAR parameters.

The data dictionary at ECS allows the user to view the valid responses of DAR and ASTER DAR parameters' constraints.

L3 Requirements:

IMS-1190#B, IMS-1195#B

L4 Requirements:

S-DMS-20900, S-DMS-23910, S-IOS-00855

4.1.4.8.2 Test Case 2: Gateway Log Test (T231-62.01.02)

This test verifies the following gateway logging functionalities:

Log the initiation of a session

Log the termination of a session

Log the resumption of previously suspended session

Log the suspension of processing of service requests

Log the startup of the gateway servers to MSS

Log the shutdown of the gateway servers to MSS

Log to MSS when a service requested is activated from the queue

Log to MSS when a service request has been successfully decomposed into its component requests

Log to MSS when an external connection to the V0 IMS server has been established

Log to MSS when the component service request has been submitted to the V0 IMS server

Log to MSS when the request to the V0 IMS server has been submitted successfully returned

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

After successful completion of all interoperability test cases, log files from those tests will be examined for verifying the gateway's logging functionalities.

Test Output:

Examination of these log files will derive a conclusion for each gateway logging functionality

Success Criteria:

The gateway log file, from test cases gateway related test case within gateway 1a and 1b, contains valid information reflecting all activities as listed in the test objective.

L3 Requirements:

IMS-0140#B, IMS-1640#B, IMS-1650#B, IMS-1660#B, IMS-1665#B

L4 Requirements:

S-DMS-30910, S-DMS-30920, S-DMS-30930, S-DMS-30940, S-DMS-31020, S-DMS-31030, S-DMS-31011, S-DMS-31012, S-DMS-31013, S-DMS-31014, S-DMS-31015, S-DMS-31016, S-DMS-31017, S-DMS-31018,

4.1.4.8.3 Test Case 3: Event Notification Test (T231-62.01.03)

This test verifies that the gateway provides the following notification functionalities:

- Notification of events associated with sessions (i.e., when request exceeds a specified threshold)
- Notification of events associated with service requests which require additional instructions (i.e., when resources exceeds the specified threshold)
- Entry points to be used to respond notification of events which require instructions to be returned to the LIM.
- Accept and utilize the entry point to be used for asynchronous notification in asynchronous service requests.
- Disable asynchronous notification, and provide default instructions for such notification events
- Accept notification of events associated with other services
- Accept instructions associated with responses to notifications of events

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application

- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

- Log onto the ECS system. Invoke the ECS GUI to perform the followings:
- Activate an icon to initiate a session that require additional instructions
- Respond the notifications to LIM
- Enter an entry point for asynchronous notifications in asynchronous service request.
- Activate an icon to disable the asynchronous notifications
- Activate an icon to initiate a session with other services
- Activate an to initiate a service request with other service
- Respond to the notification of events

Test Output:

The gateway will generate the notifications and transmit to users

Success Criteria:

The gateway generates correct notification of events associated with service request and sessions.

L3 Requirements:

IMS-0100#B, IMS-0140#B

L4 Requirements:

S-DMS-30800, S-DMS-30805, S-DMS-30810, S-DMS-30820, S-DMS-30830, S-DMS-30840, S-DMS-30845, S-DMS-30850

4.1.4.8.4 Test Case 4: Gateway Status Report to MSS (T231-62.01.04)

This test verifies following gateway functionalities:

- Send the detected hardware and software fault information to Management Subsystem (MSS).
- Provide Configuration Management (CM) data such as software version to MSS using managed process frame work.
- Provide to MSS configuration information such as expected daily sessions, which will be used by MSS to compare plans to actual (i.e. schedule management).

- Provide integration, testing and simulation status to the MSS.
- Provide training information to the SMC
- Provide logistic information to the SMC

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

- Log onto the ECS system. Invoke the ECS GUI to perform the followings:
- Induce a hardware failure
- Select options on the console to check hardware status
- Select options on the console to check software version
- Select options on the console to check configuration information
- Select options on the console to check the status of integration, testing and simulation
- Select options on the console to check training information
- Select options on the console to check logistic status

Test Output:

The gateway will display hardware status, software status, integration status, testing status, simulation status, training information and logistic status on the console.

Success Criteria:

The gateway provides the valid hardware status, software status, integration status, testing status, simulation status, training information and logistic status to the console.

L3 Requirements:

IMS-01620#B, IMS-1640#B, IMS-1760#B

L4 Requirements:

S-DMS-31051, S-DMS-31052, S-DMS-31057, S-DMS-31058, S-DMS-31059, S-DMS-31061, S-DMS-31062

4.1.4.8.5 Test Case 5: Gateway Data Management Collection Test (T231-62.01.05)

This test verifies following gateway functionalities:

- Collect performance management data using the MSS managed object components and provide it to the MSS at the configurable intervals and on demand.
- Support the MSS in collecting accounting management data by supplying resource utilization
- Collect security management data (such as rejected access to a service) and provide it to the MSS

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

- Log onto the ECS system.
- Invoke the Openview to monitor performance of site elements
- Invoke the HP's accmgr tool (COTS product) and administer the DCE security registry (authentication database) and the access controls on cell resources (authorization database).
- Invoke the Billing & Account Application Services (BASS) COTS. Price the user orders, invoice users for data and media and track the financial data

Test Output:

The gateway will display hardware status, software status, integration status, testing status, simulation status, training information and logistic status on the console.

Success Criteria:

The gateway provides the valid hardware status, software status, integration status, testing status, simulation status, training information and logistic status to the console.

L3 Requirements:

IMS-0220#B, IMS-1620#B, IMS-1660#B,

L4 Requirements:

S-DMS-31053, S-DMS-31054, S-DMS-31050, S-DMS-31055, S-DMS-31056

4.1.4.8.6 Test Case 6: Generate Gateway Summary Reports (T231-62.01.06)

This test verifies the following gateway functionalities for generating summary reports:

- Create utilization reports and distribute them on a periodic basis to a predefined list of report recipients
- Distribute gateway utilization reports electronically or in hard copy
- Generate daily gateway operations summary reports
- Generate daily gateway performance summary reports

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application, HTML-based user interface (access to routinely generated reports)
- Data: schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Log onto the ECS system.

Access reports from the desktop through the HTML-based user interface.

Setup parameters associated (i.e., daily, monthly, quarterly) with a utilization report. Run this setup to create and distribute the utilization report.

Setup parameters associated with gateway operation summary reports. Run this setup to generate the report

Setup parameters associated with gateway performance summary reports. Run this setup to generate the report

Test Output:

The MSS will create a utilization report and distribute on a periodic basis to a predefined list of report recipients.

The MSS will generate a daily gateway operation summary reports.

The MSS will generate a daily gateway performance summary reports

Success Criteria:

The MSS generates all valid reports and distribute on a specified periodic basis to a predefined list of report recipients.

L3 Requirements:

IMS-1680#B, IMS-1690#B, IMS-1700#B

L4 Requirements:

S-DMS-32000, S-DMS-32001, S-DMS-32010, S-DMS-32011

4.1.4.9 Data Access Service 1 (B231.01)

This build will verify all the Local Information Manager 1 functions such as LIM schema, database replications, partial results integration, data granule search by science disciplines, building site query plan, service request and resource estimations are using the LIM. It will also verify Distributed Information Management 1 tests such as subscription changes, partial results integration, cross DAAC data granule search, Instrument inventory search and distributed query plan. Enhanced Data Dictionary 1 functions such as verification of valid values, geophysical parameter functions and sending and accepting request will be verified. Enhanced data services such as online full and incremental backups, manual and automatic recoveries, import and export functions, and setting thresholds will all be verified. Gateway 1 functions using V0 protocols such as inventory searches, browse request, product request, guide query and event notifications will be verified.

4.1.4.9.1 Test Case 1: Verify LIM 1 Functions (B231.01.01)

This test will show that the Local Information Manager 1 functions such as LIM schema, database replications, partial results integration, data granule search by science disciplines, building site query plan, service request and resource estimations have all been verified.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Review and analyze results of previous test pertaining to Local Information Manager 1 to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Local Information Manager 1 work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed in Local Information Manager 1 thread have been successfully tested and verified. Such verifications local schema containing changes made such as additions, updates, deletions and expansions. Revisions made to the schema are also stored and maintained. Integrated schema is created and schema entry is retrieved from integrated schema. Partial results are integrated within those data servers represented. The search result package contains all the data granules of EOSDIS data stored for all the data servers. The data granules will be compared against the search request made. Also a query of science discipline is also displayed. Primary database is replicated and the destination database contains the primary database information. The database are all in synch. The databases are also expressed in ESQL format. The search request is in the same format as the Earth Science Query Language. The queried data by site is the only data displayed. The search results from previous search requests are integrated. Search request is decomposed into executable database query. Previously suspended service request are resume, active service request are either terminated or suspended. Email is also sent to user after request cancellation. Estimated resources are chosen for the selected pending service

L3 Requirements:

IMS-0140#B, IMS-0210-#B, IMS-0220#B, IMS-0240#B, IMS-0250#B, IMS-0260-#B, IMS-0290-#B, IMS-0355#B, IMS-0560#B, IMS-0665#B, IMS-0030#B, IMS-0550#B, IMS-0610#B, IMS-0630#B, IMS-0650#B, IMS-0575#B, IMS-0570#B, IMS-1300#B

L4 Requirements:

S-DMS-00220, S-DMS-00270, S-DMS-00280, S-DMS-00030, S-DMS-00290, S-DMS-00180, S-DMS-00230, S-DMS-00740, S-DMS-00010, S-DMS-00300, S-DMS-00210, S-DMS-01050, S-DMS-10610, S-DMS-11050, S-DMS-00020, S-DMS-00040, S-DMS-00050, S-DMS-00100, S-DMS-00115, S-DMS-00550, S-DMS-00895, S-DMS-00130, S-DMS-00140, S-DMS-00150, S-DMS-00990, S-DMS-00260, S-DMS-00110, S-DMS-00160.

4.1.4.9.2 Test Case 2: Verify DIM 1 Functions (B231.01.02)

This test will show that the Distributed Information Manager 1 tests such as subscription changes, partial results integration, cross DAAC data granule search, Instrument inventory search and distributed query plan have all been verified.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.

- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Review and analyze results of previous test pertaining to Distributed Information Manager 1 to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Distributed Information Manager 1 work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed in Distributed Information Manager 1 thread have been successfully tested and verified. Such verifications include response received saying subscription to LIM and advertising has been submitted. LIM has also be deleted, added, replaced or retrieved to or from the DIM federation. The interface for addition, deletion, replacement or retrieval have been performed. Appropriate error messages must also be generated for incorrect entries made by users when performing the above functions. Search request displays partial results with latest results from the start of the request to the last request. Partial results are also integrated. The expected search request is displayed with the data list for the specified data granule information. The expected distributed query plan is displayed while its being queried and its finally generated. The search request is aborted as per user. Daily summary reports and performance summary reports are generated. The utilization reports are also generated with all the utilization data. Report is retrieved and distributed to specified location. Receipt of report by the other location is verified by confirming receipt. Report is also stored onto electronic media. DIM contributes to the response time as specified in a single instrument inventory search, multiple instrument inventory search, single instrument inventory result set and multiple instrument inventory result set consisting of multiple DAAC within time range check or special range check and integrating the results and providing a complete result set. Performance response timing are met.

L3 Requirements:

IMS-0670#B, IMS-0560#B, IMS-0575#B, IMS-0665#B, IMS-0570#B, EOSD5100#B, IMS-0030#B, IMS-0550#B, IMS-0870#B, IMS-0610#B, IMS-0290#B, IMS-0790#B, IMS-0240#B, IMS-0250#B, IMS-1680#B, IMS-1690#B, IMS-1700#B, IMS-1780#B.

L4 Requirements:

S-DMS-01070, S-DMS-11070, S-DMS-10190, S-DMS-10200, S-DMS-10210, S-DMS-10220, S-DMS-10260, S-DMS-S-DMS-10270, S-DMS-10280, S-DMS-10290, S-DMS-10110, S-DMS-10115, S-DMS-10760, S-DMS-10010, S-DMS-10020, S-DMS-10310, S-DMS-10030, S-DMS-

10040, S-DMS-10050, S-DMS-10100, S-DMS-10120, S-DMS-10460, S-DMS-10555, S-DMS-10556, S-DMS-10385, S-DMS-10386, S-DMS-10470, S-DMS-10480, S-DMS-10490, S-DMS-10500.

4.1.4.9.3 Test Case 3: Verify Enhanced DD 1 Functions (B231.01.03)

This test will show that the Enhanced Data Dictionary 1 tests such valid values, geophysical parameter functions and sending and accepting request have all been verified

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Review and analyze results of previous test pertaining to Enhanced Data Dictionary 1 to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Enhanced Data Dictionary 1 work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed Enhanced Data Dictionary 1 thread have been successfully tested and verified.

Such verification include the user at the scientist workbench being able to view the requested information at the appropriate scientist workbench. The data dictionary server receives the administrator's request. The data dictionary server decomposes the search request into executable data bases queries. Note: The decomposition of the data base search requests into executable data base queries is transparent to the user. The valid data values used in the data base queries are from the enumerated set of values as a constraint in the data dictionary configuration. The data dictionary stores the correct mapping of geophysical parameters to the appropriate instrument and collection . The user receives a valid mapping of geophysical parameters to the appropriate instrument and collection. The user receives a valid descriptive information about keywords associated with a collection. The user views the entries based on specified earth science data types through the data server, LIM and DIM. The DD schema is provided. Event log contains the entries for query initiated and results provided. Data access log

is updated. Data dictionary entries based on earth science data types will be defined. Administration log contains definition of global view of DD entries based on earth science data types through the data server. The global view is defined based on specified earth science data types through the data server. View of DD entries, based on the value given for an attribute, will be consistent. The new summary information is properly entered and is accessible by the user community. Global DD Context is defined. Administration log contains record of the definition of global DD context.

L3 Requirements:

IMS-0320#B, IMS-0630#B, IMS-0650#B, IMS-0560#B, IMS-0575#B, IMS-0240#B, IMS-1195#B, EOSD2400#B, IMS-0230#B, IMS-0350#B, IMS-0120#B, IMS-0510#B, IMS-0210#B, IMS-0550#B.

L4 Requirements:

S-DMS-20130, S-DMS-20140, S-DMS-20240, S-DMS 20880, S-DMS-20890, S-DMS 20910, S-DMS-20006, S-DMS-20007, S-DMS-20008, S-DMS-20009, S-DMS-20030, S-DMS-20040, S-DMS-20050, S-DMS-20120, S-CLS-14580, S-DMS-20010, S-DMS-20060, S-DMS-20090, S-DMS-20110, S-DMS-20070, S-DMS-20080

4.1.4.9.4 Test Case 4: Verify Enhanced Data Service Functions (B231.01.04)

This test will show that the Enhanced Data Service function such as online full and incremental backups, manual and automatic recoveries, import and export functions, and setting thresholds have all been verified.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Review and analyze results of previous test pertaining Enhanced Data Service function to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Enhanced Data Service function work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed Enhanced Data Service functions have been successfully tested and verified. Such verifications include all the on-line full backup files have been backup up completely and all the incremented backup files have been backed-up also. All the files and screens have been restored back on to the system. The data dictionary recovery procedures are executed and the initiated transaction is completed after recovery procedures are executed successfully. Verification is made by comparing backed information with the latest. Exported files have been accepted from the data server, LIM and DIM. Also, imported and exported files are saved. Dependent valid values are exported to ESDIS IMS. Thesaurus of all the DD entries are returned to the user. This thesaurus will be displayed with the appropriate information in relation to the data dictionary entries.

The performance measured during the execution of this test will be recorded and compared with the performance results obtained from LoadRunner and other UNIX performance monitoring tools available at the time of test execution. This test will be considered successful if the performance obtained from the Administrative Performance Utilities is identical to the statistics reported by the test tools. Subscription request functions create, cancel, renew, update, list and submissions are all met for periodic deliveries, on-demand processing and distribution of ECS data.

This test is considered successful when the number of results returned from the query is identical to the queried results.

L3 Requirements:

IMS-0220#B, IMS-0230#B, IMS-0240#B, IMS-0250#B, IMS-0320#B, IMS-0210#B, V0-0380#B, IMS-1660#B, IMS-0660#B, IMS-0740#B, IMS-0670#B, IMS-0920#B, IMS-0980#B, IMS-0950#B, EOSD5210#B, EOSD5020#B, IMS-1765#B

L4 Requirements:

S-DMS-20300, S-DMS-20310, S-DMS-20320, S-DMS-20330, S-DMS-20640, S-DMS-20160, S-DMS-20170, S-DMS-20180, S-DMS-20340, S-DMS-20350, S-DMS-20930, S-DMS-21020, S-DMS-20260, S-DMS-20270, S-DMS-20280, S-DMS-20290, S-CLS-15950, S-CLS-10280, S-CLS-10950, S-CLS-11000, S-CLS-11250, S-CLS-11260, S-CLS-11270, S-CLS-11280, S-DMS-00900, S-DMS-10900, S-DMS-21000, S-DMS-00910, S-DMS-10910, S-DMS-21010

4.1.4.9.5 Test Case 5: Verify Gateway 1 Functions (B231.01.05)

This test will show that Gateway 1 functions such as inventory searches, browse request, product request, guide query and event notifications have all been verified.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.

- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Review and analyze results of previous test pertaining Gateway 1 functions to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Gateway 1 functions work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed Gateway 1 functions been successfully tested and verified. The ECS successfully submits inventory search requests to V0 IMS. The ECS successfully receives inventory search results from V0 IMS. The ECS successfully submits inventory search requests to NOAA SAA. The ECS successfully receives inventory search results at ECS from NOAA SAA. The NOAA SAA successfully submits inventory search requests to V0 IMS. The V0 IMS successfully receives inventory search results from NOAA SAA. The successful transmission of messages between ECS and V0 systems implies that ECS protocol successfully converted messages for V0 system and vice versa.

The successful transmission of messages between ECS and NOAA SAA system implies that the gateway supported two-way level 2 or 3 catalog interoperability, as defined by the CEOS for the interface between the ECS and NOAA SAAs. The successful transmission of messages between ECS and V0 system implies that the gateway supported two-way level 3 catalog interoperability, as defined by the CEOS for the interface between the ECS and V0. The gateway log contains a valid entry for each request. The ECS successfully sends the browse requests to V0 IMS. The ECS successfully receives the browse results from V0 IMS. The ECS successfully sends the browse requests to NOAA SAA. The ECS successfully receives the browse requests from NOAA SAA. The ECS successfully receives the browse requests from NOAA SAA. The gateway log contains a valid entry for each request.

ECS successfully submits a product request to V0 IMS. ECS successfully submits a product request to NOAA SAA. ECS successfully receives a product delivery status from NOAA. ECS successfully submit a product delivery status request to NOAA. NOAA successfully submits an ECS product request to ECS. ECS successfully submits a product delivery status to NOAA. NOAA successfully submits a product delivery status request to ECS. ECS successfully submits a product availability query to NOAA NMC. The gateway log contains a valid entry for each request. ECS successfully sends an authentication requests to NOAA SAA. ECS successfully sends an authentication information to NOAA SAA. ECS successfully sends a cost estimate request to NOAA SAA. ECS successfully receives the cost estimate request from NOAA SAA.

ECS successfully sends an ancillary data request to NOAA NMC. The log contains a valid entry for each request. The ECS successfully sends guide queries to NOAA SAA. The ECS successfully sends guide query results to NOAA SAA. The ECS successfully sends guide search requests to V0 IMS. The V0 IMS successfully sends guide search results to ECS. The gateway contains a valid entry for each request.

The data dictionary at ECS allows the user to view the valid responses of the DAR and ASTER DAR parameters. The data dictionary at ECS allows the user to view the valid responses of DAR and ASTER DAR parameters' constraints. The gateway will display hardware status, software status, integration status, testing status, simulation status, training information and logistic status on the console. The gateway provides the valid hardware status, software status, integration status, testing status, simulation status, training information and logistic status to the console. The MSS generates all valid reports and distribute on a specified periodic basis to a predefined list of report recipients.

L3 Requirements:

IMS-0620#B, IMS-0625#B, V0-0060#B, V0-0070#B, IMS-0860#B, IMS-0870#B, IMS-0915#B, IMS-1290#B, IMS-0645#B, V0-0100#B, V0-0110#B, NOAA0300#B, IMS-0880#B, IMS-0780#B, NOAA0720#B, V0-0120#B, NOAA0230#B, NOAA0330#B, NOAA0340#B, NOAA0700#B, V0-0080#B, V0-0090#B, NOAA0210#B, IMS-0140#B, IMS-1640#B, IMS-1650#B, IMS-1660#B, IMS-1665#B, IMS-1190#B, IMS-1195#B, IMS-0100#B, IMS-1620#B, IMS-1640#B, IMS-1760#B, IMS-1680#B, IMS-1690#B, IMS-1700#B IMS-0560#B, IMS-06650#B, IMS-0220#B

L4 Requirements:

S-DMS-30310, S-DMS-30320, S-DMS-30650, S-DMS-30640, S-DMS-30660, S-DMS-30670, S-DMS-30550, S-DMS-30560, S-DMS-30570, S-DMS-30760, S-DMS-30340, S-DMS-30345, S-DMS-30680, S-DMS-30690, S-DMS-30695, S-DMS-30350, S-DMS-30700, S-DMS-30710, S-DMS-30720, S-DMS-30740, S-DMS-30750, S-DMS-31150, S-DMS-30620, S-DMS-30630, S-DMS-31060, S-DMS-31090, S-DMS-31140, S-DMS-30600, S-DMS-30610, S-DMS-30160, S-DMS-31100, S-DMS-31120, S-DMS-31160, S-DMS-31190, S-DMS-20900, S-DMS-23910, S-DMS-30910, S-DMS-30920, S-DMS-30930, S-DMS-30940, S-DMS-31020, S-DMS-31030, S-DMS-31011, S-DMS-31012, S-DMS-31013, S-DMS-31014, S-DMS-31015, S-DMS-31016, S-DMS-31017, S-DMS-31018, S-DMS-30800, S-DMS-30805, S-DMS-30810, S-DMS-30820, S-DMS-30830, S-DMS-30840, S-DMS-30845, S-DMS-30850, S-DMS-31051, S-DMS-31052, S-DMS-31057, S-DMS-31058, S-DMS-31059, S-DMS-31061, S-DMS-31062, S-DMS-31053, S-DMS-31054, S-DMS-31056, S-DMS-32000, S-DMS-32001, S-DMS-32010, S-DMS-32011.

4.1.4.10 Enhanced Parameter Search Thread I (T232-10.01)

This thread will test parameter search functions such as compose search request, building complex query searches, wildcard query construct, character ranges and other search criteria. These tests will also verify the user's ability to use boolean operators to relate query parameters for geographical and non-geographical metadata. Other search criteria will include logical and boolean operators matching criteria for query of alpha-numeric non-geographical metadata.

Other searches are wildcard construct (prefix, embedded, suffix) matching criteria for query of alpha-numeric non-geographical metadata

4.1.4.10.1 Test Case 1: Compose Search Request (T232-10.01.01)

This test verifies that a user can compose a search request based on products specific and core metadata attributes chosen. Several searches will be performed and will be the data available in the data server. All search requests are logged in the data access log.

Test Configuration:

- Hardware: Workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Search scenario based on available data

Test Output:

Search result package.

Success Criteria:

The returned search result package contains data with the specified data product or core metadata attribute specified. All submitted search requests are logged.

L3 Requirements:

IMS-0340#B, IMS-0550#B, IMS-0560#B.

L4 Requirements:

S-CLS-10010.

4.1.4.10.2 Test Case 2: Build a Complex Query Search (T232-10.01.2)

This test verifies the user's ability to use boolean operators to relate query parameters for geographical and non-geographical metadata. Other search criteria will include logical and boolean operators matching criteria for query of alpha-numeric non-geographical metadata.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Enter search query using boolean operators.

Test Output:

Search result package contains queried parameters for alpha-numeric geographical and non-geographical metadata.

Success Criteria:

The returned search result package contains queried parameters for geographical and non-geographical metadata and alpha-numeric non-geographical metadata within the boundaries.

L3 Requirements:

IMS-0630#B, IMS-0650#B, IMS-1470#B.

L4 Requirements:

S-CLS-10130, S-CLS-10160.

4.1.4.10.3 Test Case 3: Wildcard Query Construct (T232-10.01.03)

This test verifies that a user can perform wildcard construct (prefix, embedded, suffix) matching criteria for query of alpha-numeric non-geographical metadata.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Enter search query using wildcard construct such as (prefix, embedded, suffix) matching criteria for query of alpha-numeric non-geographical metadata.

Test Output:

Search result package contains matching criteria for query of alpha-numeric non-geographical metadata.

Success Criteria:

This test is deemed successful when the search result package contains matching criteria for query of alpha-numeric non-geographical metadata.

L3 Requirements:

IMS-0630#B, IMS-0650#B.

L4 Requirements:

S-CLS-10140.

4.1.4.10.4 Test Case 4: Character Range Query (T232-10.01.04)

This test demonstrates the ability of the ECS to allow users to perform character range matching criteria for query of alpha-numeric non-geographical metadata.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Enter search query using character range matching criteria of alpha-numeric non-geographical metadata.

Test Output:

Search result package contains matching criteria for query of alpha-numeric non-geographical metadata.

Success Criteria:

This test is considered successful when the search result package contains matching criteria for query of alpha-numeric non-geographical metadata.

L3 Requirements:

IMS-0630#B, IMS-0650#B.

L4 Requirements:

S-CLS-10150.

4.1.4.10.5 Test Case 5: Combination Search (T232-10.01.05)

This test verifies that a user can perform combination searches such as min/max range search criteria for query of numerical non-geographic metadata and also any combination of exact word match, exact phrase match, character set, wildcard, character range, logical and boolean operator, and min/max range search criteria for query of non-geographic metadata.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Enter search query using any combination of exact word match, exact phrase match, character set, wildcard, character range, logical and boolean operator, and min/max range search criteria for query of non-geographic metadata.

Test Output:

Search result package contains matching criteria for query any combination of exact word match, exact phrase match, character set, wildcard, character range, logical and boolean operator, and min/max range search criteria for query of non-geographic metadata.

Success Criteria:

This test is considered successful when the search result package contains matching criteria for query of any combination of exact word match, exact phrase match, character set, wildcard, character range, logical and boolean operator, and min/max range search criteria for query of non-geographic metadata.

L3 Requirements:

IMS-0630#B, IMS-0650#B.

L4 Requirements:

S-CLS-10170, S-CLS-10180.

4.1.4.11 Spatial Search Thread I (T232-20)

This thread test covers the means by which a user may prepare a search request for data and verify the results returned from a search request. Testing will be performed to demonstrate spatial metadata searches to include point/radius, polygon, geographical metadata query and simple and complex inventory searches. This thread will also covers the means by which a user may prepare a search request for data and verify the results returned from a search request. Testing will be performed to demonstrate spatial metadata searches to include global granules, phenomenological search criteria and latitude/longitude searches.

4.1.4.11.1 Test Case 1: Point/Radius Search Test (T232-20.01.01)

This test verifies that a user can select a circular area of interest on a map and submit a search request on the area contained by the circle. The tester uses the cursor to draw a circle on a map and submit a search request. The result package is verified to insure the returned data falls within the circular boundaries. The result package is represented graphically.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Circle, search request.

Output:

Search result package.

Success Criteria:

The returned search result package contains data within the circular boundaries.

L3 Requirements:

IMS-0580#B, IMS-0630#B, IMS-0640#B.

L4 Requirements:

S-CLS-10070, S-CLS-10075.

4.1.4.11.2 Test Case 2: Polygon Search Request (T232-20.01.02)

This test verifies that a user can perform polygon searches. The tester uses the cursor to draw a polygon on a map and submit a search request. The result package is verified to insure the data is correct. The result package is represented graphically.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Polygon, search request.

Output:

Search result package.

Success Criteria:

The returned search result package contains data within the boundaries.

L3 Requirements:

IMS-0580#B, IMS-0630#B, IMS-0640#B.

L4 Requirements:

S-CLS-10080.

4.1.4.11.3 Test Case 3: Geographical Metadata Query Test (T232-20.01.03)

This test verifies that a user can perform geographical metadata query. The tester selects the geographical location for the metadata query. The result package is verified to insure the data is correct. The result package is represented graphically.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Geographical metadata query request.

Output:

Search result package.

Success Criteria:

The returned search result package contains data within the geographical location specified.

L3 Requirements:

IMS-0580#B, IMS-0630#B, IMS-0640#B.

L4 Requirements:

S-CLS-10090.

4.1.4.11.4 Test Case 4: Simple and Complex Inventory Search (T232-20.01.04)

This test demonstrates the ability of the ECS to allow users to perform simple and complex inventory searches. Search criteria will be developed based on user scenarios and will be designed to access a data server. Complex searches consist of a minimum of 5 search selection criteria as well as Boolean and relational operators. The search criteria will be developed based on user scenarios and data server information. The criteria will be designed to search across multiple data sets, if available, for coincident occurrences of data in space, time, and any other attribute(s) of metadata. The search will be executed and the data returned will be compared with the expected results.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.

- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Search scenario based on available data.

Output:

Descriptions of granules meeting the search criteria for both simple and complex searches.

Success Criteria:

This test is considered successful if each inventory search returns the granule descriptions of the granules meeting the search criteria. The client must provide informational messages to users indicating a query is being executed. Errors obtained while the search is being performed must be reported to the user. The inventory search must also provide information concerning product processing schedules and processing history.

L3 Requirements:

IMS-0610#B, IMS-0660#B.

L4 Requirements:

S-CLS-10930.

4.1.4.11.5 Test Case 5: Global Granule Search (T232-20.01.05)

This test verifies that a user can perform a graphical inventory search using global land attributes. The tester uses the mapping tool to bring up a global view of the earth. The tester then performs a global land search on a selected data type. The search result package is verified against search criteria.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.

- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Mapping tool, global land request.

Output:

All data available for the selected data type.

Success Criteria:

The search result package contains all the land data for the selected data type.

L3 Requirements:

IMS-0190#B, IMS-0640#B.

L4 Requirements:

S-CLS-13540, S-CLS-15940.

4.1.4.11.6 Test Case 6: Phenomenological Search Criteria (T232-20.01.06)

This test verifies that searches can be performed using phenomenological search criteria for attributes supported by the data server schema. Phenomenological search criteria can be related to search criteria containing values for searchable attributes supported in the data server schema.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Search request using phenomenological search criteria. Relate phenomenological search criteria to search criteria containing values for searchable attributes.

Output:

Results from search.

Success Criteria:

Searches can be performed using phenomenological search criteria. Phenomenological search criteria can be related to search criteria containing values for searchable attributes.

L3 Requirements:

IMS-0560#B, IMS-0510#B.

L4 Requirements:

S-CLS-13560, S-CLS-14570, S-DMS-20920.

4.1.4.11.7 Test Case 7: Latitude/Longitude Search (T232-20.01.07)

The tester graphically selects a region on the map using the mapping tool and selects a core metadata search. The result package reflects any metadata found within the selected region.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Region with metadata available.

Test Output:

Search result package.

Success Criteria:

The search result package contains a graphical representation of the metadata found within the specified region.

L3 Requirements:

IMS-0580#B, IMS-0640#B, IMS-690#B.

L4 Requirements:

4.1.4.12 Search Services I (B232.01)

This search service build 1 will consist of verify all phase 1 parameter searches, and spatial searches. Test parameter search functions such as compose search request, building complex query searches, wildcard query construct, character ranges and other search criteria. Spatial search functions include point/radius search, polygon searches, geographical metadata query and inventory searches. Other test will include verifying global granule search, phenomenological search and latitude/longitude searches.

4.1.4.12.1 Test Case 1: Verify Parameter Searches I (B232.01.01)

This test verifies that all the parameter searches that was performed were successfully done. Such searches to be verified include compose search request, complex query search, wildcard query construct, character range query and combination search. The search requests that were performed will be logged in the data access log.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Search scenario based on available data

Test Output:

Search result package.

Success Criteria:

Composed search request, complex query search, wildcard query construct, character range query and combination search result package contains data with the specified data product or core metadata attribute specified. All submitted search requests are logged.

L3 Requirements:

IMS-0340#B, IMS-0550#B, IMS-0560#B, IMS-0630#B, IMS-0650#B, IMS-1470#B.

L4 Requirements:

S-CLS-10010, S-CLS-10130, S-CLS-10160, S-CLS-10140, S-CLS-10150
S-CLS-10170, S-CLS-10180.

4.1.4.12.2 Test Case 2: Verify Spatial Search I (B232.01.02)

This test verifies that all the spatial searches that was performed were successfully done. Such searches include point/radius search, polygon searches, geographical metadata query and inventory searches. Other test will include verifying global granule search, phenomenological search and latitude/longitude searches. The spatial search request that were performed will be logged in the data access log.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Search scenario based on available data

Test Output:

Search result package.

Success Criteria:

All point/radius search, polygon searches, geographical metadata query and inventory searches, global granule search, phenomenological search and latitude/longitude search request result package contains data with the specified data product or core metadata attribute specified. All submitted search requests are logged and all data distribution data are sent to the appropriate places.

L3 Requirements:

IMS-0580#B, IMS-0630#B, IMS-0640#B, IMS-0610#B, IMS-0660#B, IMS-0190#B,
IMS-0560#B, IMS-0510#B, IMS-0690#B.

L4 Requirements:

S-CLS-10070, S-CLS-10075, S-CLS-10080, S-CLS-10090, S-CLS-10930, S-CLS-13540,
S-CLS-15940, S-CLS-13560, S-CLS-14570, S-CLS-13990, S-DMS-20920

4.1.5 Planning and Data Processing Subsystem

4.1.5.1 Processing Request Thread IA (T233-11.01)

Testing will demonstrate the ability of the operations staff to update and restrict access to the PGE Database. The processing GUIs will conform to the style guide standards as much as possible. EOS AM L0 data will be assessed and will be provided to the Science Data Processing ToolKit. DAACs will have the ability to incorporate discipline-specific software into the ECS system.

4.1.5.1.1 Test Case 1: Incorporate Software (T233-11.01.01)

This test verifies that the capability exists to incorporate DAAC-developed software required to support discipline-specific needs. This will be proven by inspection. Since Release A has provided configuration-controlled APIs to support the development and integration of DAAC value-added processing (DPS-20010), the ability to incorporate DAAC-developed software exists.

Test Configuration:

- Hardware: N/A
- Software: N/A
- Data: None
- Tools: None

Test Input:

Test Results from Release A Test Case xxx.

Test Output:

N/A

Success Criteria:

Release A test case xxx was successfully executed.

L3 Requirements:

EOSD1705#B, PGS-1410#B

L4 Requirements:

S-DPS-20020

4.1.5.1.2 Test Case 2: PRONG HMI Function (T233-11.01.02)

This test verifies that the processing HMI functions, which are Autosys functions, are accessible by an application program interface. A driver will be written that will interact with the ECS APIs (public class libraries), which will in turn interact with Autosys functions.

Test Configuration:

- Hardware: Science Processing Hardware
- Software: PRONG COTS (Autosys), Test Driver, ECS APIs
- Data:
- Tools:

Test Input:

Initiate the PRONG COTS software. Run the test driver.

Test Output:

The results from the running of the test driver.

Success Criteria:

The test driver will interact with APIs, which will in turn interact with Autosys functions, in the expected manner.

L3 Requirements:

EOSD1705#B, PGS-1400#B

L4 Requirements:

S-DPS-21860

4.1.5.1.3 Test Case 3: Determine Computing Resources (T233-11.01.03)

This test verifies that the operations staff can use profiling capabilities to determine the computing resources utilized by the execution of a chain of PGE's

Test Configuration:

- Hardware: Science Processing HWCI, Algorithm Integration and Test HWCI
- Software: AITTL CI, PDPS Database Server
- Data: Chain of PGEs
- Tools:

Test Input:

Initiate an AI&T staff script which determine the current utilization of computing resources on a chain of currently executing PGE's.

Test Output:

A report indicating the computing resources utilized by the chain of PGE's.

Success Criteria:

The report indicating the computing resources utilized by the chain of PGE's accurately reflects the total computing resources used.

L3 Requirements:

PGS-0310#B, PGS-0650#B

L4 Requirements:

S-DPS-42365

4.1.5.1.4 Test Case 4: Continuous Operation (T233-11.01.04)

This verifies that the Processing subsystem is capable of operating in a 24 hour per day, 7 days per week mode. This will be verified by inspection. The capability to operate in a 24x7 mode exists in release A. There is no new functionality to support this requirement in release B. As there are no restrictions to this requirement (such as daily down-time for maintenance), the continuous operation capability exists.

Test Configuration:

- Hardware: N/A
- Software: N/A.
- Data: N/A
- Tools: N/A

Test Input:

TBD

Test Output:

N/A

Success Criteria:

TBD

L3 Requirements:

SDPS0120#B

L4 Requirements:

S-DPS-20030

4.1.5.2 Processing Request Thread IB (T233-12.01)

Testing will demonstrate the ability of the operations staff to update and restrict access to the PGE Database. The processing GUIs will conform to the style guide standards as much as possible. EOS AM L0 data will assessed and will be provided to the Science Data Processing

ToolKit. DAACs will have the ability to incorporate discipline-specific software into the ECS system.

4.1.5.2.1 Test Case 1: AITTL Conformance (T233-12.01.01)

This test verifies that the AITTL GUIs conforms to the guidelines in version 5.1 of the ECS User Interface Style Guide.

Test Configuration:

- Hardware: Workstation.
- Software: AITTL PGE Processing GUI, AITTL SSAP Processing GUI
- Data: Checklist from version 5.1 of the ECS User Interface Style Guide.
- Tools: XRunner

Test Input:

Display AITTL GUIs. A checklist provided from the Style Guide.

Test Output:

A display of the AITTL GUIs.

Success Criteria:

The AITTL GUIs conform to the guidelines specified in the checklist provided from version 5.1 of the ECS User Interface Style Guide.

L3 Requirements:

IMS-1380#B

L4 Requirements:

S-DPS-40835

4.1.5.2.2 Test Case 2: Granule Size (T233-12.01.02)

This test verifies that the size of input and output granules from Data Processing Requests are checked. If the granules are not within a pre-assigned range, a notification will be sent to the operations staff.

Test Configuration:

- Hardware: Science Processing HWCI.
- Software: PRONG COTS, PRONG COTS Manager, PRONG Data Management, PRONG PGE Execution Management, PRONG QA Monitor Interface
- Data: Input and Output granules for DPRs, PGE Profiles
- Tools:

Test Input:

Input and output granules of varying size, some of which exceed the pre-defined ranges of values, some of which are smaller than the pre-defined range of values. Pre-defined ranges of values, specified in the PGE Profile, for input and output granules.

Test Output:

Notifications indicating input and output data granules are outside the predefined range of values.

Success Criteria:

Notifications will be sent to the operations staff indicating the appropriate input and output data granules which are not within the specified range of values for input and output granules.

L3 Requirements:

PGS-1050#B

L4 Requirements:

S-DPS-24000, S-DPS-24010

4.1.5.2.3 Test Case 3: Assess Quality of Onboard Orbit & Attitude Data (T233-12.01.03)

This test verifies that the quality of the onboard orbit data is assessed. Data will be checked for missing or erroneous data. The metadata will be updated to note missing data or erroneous data which deviates more than a specified number or exceed limits over a specified time interval. In addition, processing will generate reports on the quality of onboard orbit data noting if the number of missing data is more than a specified limit value over a specified time interval, and if the number of contiguous missing data is more than a specified value.

This test also verifies that the quality of the onboard attitude data contained in the EOS-AM spacecraft ancillary data is assessed properly. Missing and erroneous data will be detected and noted in the metadata.

Test Configuration:

- Hardware: Science Processing HWCI.
- Software: PRONG Data Pre-Processing, PRONG Data Management.
- Data: EOS AM Spacecraft ancillary data of varying quality (some of the data will have holes and erroneous data).
- Tools:

Test Input:

EOS AM Spacecraft ancillary data of varying quality. Process data checking for the specified conditions.

Test Output:

Metadata will be updated to note missing or erroneous data. A report will be generated which specifies the quality of the onboard orbit data.

Success Criteria:

The successful entry into the metadata of any missing and/or erroneous data. A report which correctly notes the quality of the onboard orbit data.

L3 Requirements:

PGS-0455#B, PGS-0456#B, PGS-0458#B, PGS-1100#B

L4 Requirements:

S-DPS-30300, S-DPS-30320, S-DPS-30600

4.1.5.2.4 Test Case 4: Provide Data to SDP Toolkit (T233-12.01.04)

This test verifies that the SDP Toolkit will be provided with the following information:

- 1) EDOS-generated L0 PDS containing header and quality information, as specified in the EDOS-ECS ICD.
- 2) EDOS-generated L0 PDS as header and quality parameters contained within the same physical file as the L0 telemetry packets.
- 3) EDOS-generated L0 header in the native format of the host hardware.
- 4) EDOS-generated L0 data including actual start time and actual end time of staged L0 data, the number of physical L0 data files staged, start time and end time of L0 data as requested by EOS investigators, APID of each L0 data file, and the orbit number of the staged L0 data file.
- 5) Ephemeris files (platform position and velocity vectors, and platform attitude/attitude rate data).
- 6) Metadata (time range, orbit number range, and platform).

The orbit and attitude data transferred to the SDP Toolkit is transferred in the native format of the host hardware. The native format of all host hardware is HDF-EOS format.

Test Configuration:

- Hardware: Science Processing HWCI.
- Software: PRONG Data Pre-Processing, SDPTK
- Data: EOS AM L0 data.
- Tools:

Test Input:

EOS AM L0 data is provided to processing.

Test Output:

A file which contains the information specified above.

Success Criteria:

The successful storing of the data in a file as specified in the test case description.

L3 Requirements:

DADS0140#B, DADS0770#B, DADS0780#B, DADS0800#B, EDOS-4.2.2-#B, EDOS-4.2.3-#B, EDOS-B.4.2#B, EDOS-C.4.2#B, EDOS-C.4.3#B, PGS-0500#B, PGS-0520#B, PGS-1015#B, SDPS0020#B

L4 Requirements:

S-DPS-30710, S-DPS-30750, S-DPS-30770, S-DPS-30900, S-DPS-30910, S-DPS-30920, S-DPS-31010, S-DPS-31030

4.1.5.2.5 Test Case 5: Core Metadata Values (T233-12.01.05)

This test verifies that core metadata values of output data granules can be checked against a predefined list of values and a predefined range of values. Valid and invalid cases will be checked for a sampling of core metadata values.

Test Configuration:

- Hardware: Science Processing HWCI.
- Software: PRONG QA Monitor Interface
- Data: Core Metadata, PGE Profile specifying a predefined ranges of values and a predefined list of values
- Tools:

Test Input:

QA information from the PGE Profile - predefined list of values, predefined range of values; all of which are valid for the first comparison. Output granule core metadata. Initiate the checking of the output granule core metadata against the list of predefined values. Initiate a check of the output granule core metadata against the range of values. Alter the predefined list of values and predefined range of values to invalid values. Recheck the metadata against the list of predefined values, and against the range of values.

Test Output:

Notification that QA is complete. Notification of errors.

Success Criteria:

For the first set of checks, the metadata will be within range and within the predefined list, and will complete successfully. For the second set of checks, the metadata will fail the checks and return error messages.

L3 Requirements:

PGS-1050#B

L4 Requirements:

S-DPS-24020, S-DPS-24030

4.1.5.2.6 Test Case 6: Product Specific Metadata Values (T233-12.01.06)

This test verifies that product specific metadata values of output data granules can be checked against a predefined list of values and a predefined range of values. Valid and invalid cases will be checked for a sampling of product specific metadata values.

Test Configuration:

- Hardware: Science Processing HWCI.
- Software: PRONG QA Monitor Interface
- Data: Product Specific Metadata, PGE Profile specifying a predefined ranges of values and a predefined list of values.
- Tools:

Test Input:

QA information - predefined list of values; predefined range of values; all of which are valid for the first comparisons. Output granule product specific metadata. Initiate the checking of the output granule product specific metadata against the list of predefined values. Initiate a check of the output granule product specific metadata against the range of values. Alter the predefined list of values and predefined range of values to invalid values. Recheck the metadata against the list of predefined values, and against the range of values.

Test Output:

Notification that QA is complete. Notification of errors.

Success Criteria:

For the first set of checks, the metadata will be within range and within the predefined list, and will complete successfully. For the second set of checks, the metadata will fail the checks and return error messages.

L3 Requirements:

PGS-1050#B

L4 Requirements:

S-DPS-24040, S-DPS-24050

4.1.5.3 Enhanced Production Plan Thread I (T233-20.01)

Testing will demonstrate the ability to manage production planning through plan creation based on Data Availability Schedules, other plans, and scheduling conflicts. The operations staff will have the ability to create subsets of plans, as well as create a high-level view of production plans. The on-demand production request thresholds will be exercised by entering various on-demand production requests into the system.

4.1.5.3.1 Test Case 1: Candidate Plans (T233-20.01.01)

This test verifies the creation of a candidate plan that will satisfy DASs. The candidate plan will specify a timeline for PGE execution. This test also verifies the creation of a candidate plan that will satisfy production requests for reprocessing and on-demand data products, as well as consolidate any outstanding data processing requests in the current active plan.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, Production Request Editor, PDPS Database Server
- Data: DASs, reprocessing and on-demand data requests.
- Tools:

Test Input:

A number of DASs are entered into the planning system. A number of reprocessing and on-demand data product requests are entered into the planning system. Initiate the creation of a candidate plan. Display the candidate plan. A number of data processing requests that will not be accommodated in the active plan are entered into the planning system. Initiate the creation of a candidate plan. Display the candidate plan.

Test Output:

Candidate plans are created. The candidate plans are displayed.

Success Criteria:

A candidate plan is successfully created and satisfy present DASs as well as production requests for reprocessing and on-demand data products. Another candidate plan is successfully created and incorporates any outstanding data processing requests. All candidate plans will be consistent with available and allocated processing resources.

L3 Requirements:

PGS-0150#B, PGS-0220#B, PGS-0230#B, PGS-0250#B, PGS-0300#B,

L4 Requirements:

S-PLS-00700, S-PLS-00720, S-PLS-00811

4.1.5.3.2 Test Case 2: On-Demand Processing Requests (T233-20.01.02)

This test verifies that on-demand processing requests will be handled appropriately. On-demand production requests will be checked for validity. A response message is sent to the data server indicating the acceptance status of the production request, and, if rejected, why the request is rejected. If the on-demand process is within specified thresholds, it will be forwarded to Autosys for processing. These thresholds will be specified by the operator. On-demand requests that can not be accommodated will be deferred for later scheduling in a candidate plan. If a production request is deferred, a notification will be sent to the operations staff indicating the deferral. Updating on-demand requests will also be verified. A response message indicating acceptance/rejection status of the updates is sent to the data server.

For this test case, the sending of messages to other subsystems will not be tested. The initiation of the sending of the messages from Planning will be tested.

Test Configuration:

- Hardware: Production Planner workstation, Planning Server
- Software: Production Planning Workbench, On-Demand Manager, PDPS Database Server, Production Request Editor.
- Data: Production requests, current site production plan.
- Tools:

Test Input:

Both valid and invalid production requests will be entered. The operator will specify the resource usage threshold for on-demand processing. A number of on-demand production requests that will be accommodated immediately are entered into the planning system. A number of on-demand production requests that exceed this threshold and will not be accommodated initially are entered into the planning system. Initiate the creation of a candidate plan. Display the candidate plan. A number of valid and invalid on-demand production request updates are submitted.

Test Output:

A message is sent to the data server indicating the acceptance status of the production requests, and why on-demand production requests were rejected, if appropriate. Acceptance of production requests that met initial criteria will be verified by checking the Autosys process log. Notifications will be sent to the operations staff indicating production requests that have been deferred. A candidate plan is created which will include the production requests that have been deferred. The candidate plan is displayed. A response message is sent to the data server indicating acceptance/rejection status of updates to the on-demand production requests.

Success Criteria:

Invalid production requests are rejected and a messages indicating the reasons for rejection are sent to the data server. Valid on-demand production requests that can be accommodated immediately are scheduled into Autosys. The operator will be able to specify the resource usage

threshold for the acceptance/deferral of on-demand products. Valid on-demand production requests that can not be accommodated are deferred, and notification is sent to the operations staff indicating the deferral. A message is sent to the data server indicating the acceptance status of the production request. A candidate plan is created which will include the deferred production requests. The candidate plan is displayed. The valid on-demand production request updates are accepted and the invalid on-demand production requests are rejected. A response message is sent to the data server indicating acceptance/rejection status of the updates.

L3 Requirements:

PGS-0160#B, PGS-0165#B, SDPS0026#B

L4 Requirements:

S-PLS-00100, S-PLS-00150, S-PLS-00160, S-PLS-00165, S-PLS-00170

4.1.5.3.3 Test Case 3: Maintain and Update Multiple Production Strategies (T233-20.01.03)

This test verifies that multiple production strategies can be maintained. Production strategies are defined by sets of production rules and are used when preparing a candidate plan. This test also verifies that operators can update the production strategies.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, PDPS Database Server
- Data: Production Rules, Production Strategies, Production Requests.
- Tools:

Test Input:

A number of production strategies are created. Initiate the creation of a number of candidate plans using a number of production strategies. Display the candidate plans. Modify and delete a number of production strategies using the operators interface. Initiate the creation of a number of candidate plans using a number of production strategies. Display the candidate plans.

Test Output:

Production strategies are accepted. Candidate plans are created and displayed. Updates to production strategies are accepted. Candidate plans are created and displayed.

Success Criteria:

The candidate plans are successfully created and modified. Production strategies are successfully used in creating the candidate plans. The operations staff can successfully modify the production strategies.

HOT - REQUIREMENTS ARE MISSING

L3 Requirements:

PGS-0140#B, PGS-0230#B

L4 Requirements:

S-PLS-00445, S-PLS-00455

4.1.5.4 Enhanced Production Management Thread IA (T233-31.01)

Testing will demonstrate the enhanced production management by verifying that notifications of production request status will be sent to the originating data server. Planning GUIs will be inspected for conformance with the ECS Style Guide.

It will be verified that Algorithm Integration and Test (AI&T) activities can be conducted in a separate environment from the regular production environment. This will be accomplished using mode management.

Quality assurance functions will be tested. The operations staff will have the capability to identify all input data awaiting QA. The operations staff will also have the ability to compare actual resource usage to planned resource usage.

4.1.5.4.1 Test Case 1: Quality Assurance Data Checks (T233-31.01.01)

This test verifies that Planning provides the capability to identify all available input data that is currently awaiting quality assurance information. This will be done by a query on the PDPS database. The status of the input data will be updated to reflect an expired QA timeout period if the quality assurance information has not been received within the specified time period.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, Subscription Manager, PDPS Database Server
- Data: Input data.
- Tools:

Test Input:

Input data exists in the database that is waiting quality assurance information, and input data also exists in the database that is not. The QA timeout period on all data is not expired. An operator issues a query of the database to determine what input data is waiting quality assurance information. Shorten the QA timeout period to cause some of the data to timeout. Query the database searching for the updated QA timeout flag.

Test Output:

The results from the queries of the input data.

Success Criteria:

The results of the first query accurately reflect all input data that is waiting for quality assurance information, and does not contain any input data that is not waiting for quality assurance information. The results of the second query accurately reflect all data that has an expired QA timeout period.

L3 Requirements:

PGS-1170#B, PGS-01175#B, PGS-1180#B

L4 Requirements:

S-PLS-00825, S-PLS-00827

4.1.5.5 Enhanced Production Management Thread IB (T233-32.01)

Testing will demonstrate the enhanced production management by verifying that notifications of production request status will be sent to the originating data server. Planning GUIs will be inspected for conformance with the ECS Style Guide.

It will be verified that Algorithm Integration and Test (AI&T) activities can be conducted in a separate environment from the regular production environment. This will be accomplished using mode management.

Quality assurance functions will be tested. The operations staff will have the capability to identify all input data awaiting QA. The operations staff will also have the ability to compare actual resource usage to planned resource usage.

4.1.5.5.1 Test Case 1: Display Conform to Style Guide (T233-32.01.01)

This test verifies that graphical user interfaces (GUIs) conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server, MSS Workstation
- Software: PLANG CSCI
- Data: Checklist from version 5.1 of the ECS User Interface Style Guide.
- Tools:

Test Input:

Display planning GUIs. Check to see if conform with the Style Guide. A checklist will be provided from the Style Guide.

Test Output:

Planning GUIs are displayed.

Success Criteria:

The GUI conforms to the guidelines of the ECS User Interface Style Guide.

L3 Requirements:

IMS-1380#B

L4 Requirements:

S-PLS-00458, S-PLS-00457

4.1.5.5.2 Test Case 2: Notify Data Server of PGE Status (T233-32.01.02)

This test verifies that planning will send the current processing status of production requests to the originating data server. A workstation will be used to simulate the data server for this test. The IP address or URL of the workstation will be used to identify it as the data server.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, Production Request Editor, PDPS Database Server
- Data: PGE's.
- Tools:

Test Input:

Initiate a production request which appears to planning to come from a specific data server. Suspend the production request. Resume the production request. Cancel the production request. Initiate another production request that will run to completion.

Test Output:

Notification will be sent to the originating data server when a change in status is received.

Success Criteria:

Notification will be sent to the originating data server when a change in status is received.

L3 Requirements:

PGS-0410#B

L4 Requirements:

S-PLS-01040

4.1.5.6 Planning and Processing I (B233.01)**4.1.5.6.1 Test Case 1: On Demand Processing Requests (B233.01.01)**

This test verifies the submittal and processing of an on-demand processing request. Some of the on-demand processing requests will be invalid and will be rejected by Planning. Planning will check the on-demand processing request against operator-specified thresholds and forward the

compliant on-demand processes to Processing. The remaining requests will be deferred for future scheduling. A notification will be sent to the operations staff indicating a process has been deferred and that a replan may be appropriate. Processing will process the requests.

Test Configuration:

- Hardware: Planning Server, Production Planning Workstation, Science Processing HWCI.
- Software: PDPS Database Server, Production Request Editor, Production Planning Workbench, On-Demand Manager, COTS Manager
- Data: On-demand production requests. Input data for the production requests.
- Tools:

Test Input:

Initiate several on-demand processing requests.

Test Output:

Notifications are received by the Operations Staff indicating deferred production requests. Replan notifications will be received by the Operations Staff.

Success Criteria:

Planning will forward the appropriate on-demand processing requests to Processing. Processing will process the requests successfully. The final data product will be successfully produced. Notifications indicating the deferred production requests and replan notifications will be received for each on-demand production request that exceeds predefined resource usage thresholds.

L3 Requirements:

PGS-0160#B, PGS-0165#B, SDPS0026#B.

L4 Requirements:

S-PLS-00100, S-PLS-00150, S-PLS-00160, S-PLS-02400, S-PLS-02430.

4.1.5.6.2 Test Case 2: Data Preprocessing (B233.01.02)

This test verifies that Planning can kick off data preprocessing of EDOS L0 data. DPREP is a regularly scheduled process that will run at a set time each day. The quality of the onboard orbit data is assessed. Data will be checked for missing or erroneous data. The metadata will be updated to note missing data or erroneous data which deviates more than a specified number or exceed limits over a specified time interval. In addition, processing will generate reports on the quality of onboard orbit data noting if the number of missing data is more than a specified limit value over a specified time interval, and if the number of contiguous missing data is more than a specified value. This test also verifies that the quality of the onboard attitude data contained in the EOS-AM spacecraft ancillary data is assessed properly. Missing and erroneous data will be detected and noted in the metadata.

This test also verifies that the SDP Toolkit will be provided with the following information:

- 1) EDOS-generated L0 PDS containing header and quality information, as specified in the EDOS-ECS ICD.
- 2) EDOS-generated L0 PDS as header and quality parameters contained within the same physical file as the L0 telemetry packets.
- 3) EDOS-generated L0 header in the native format of the host hardware.
- 4) EDOS-generated L0 data including actual start time and actual end time of staged L0 data, the number of physical L0 data files staged, start time and end time of L0 data as requested by EOS investigators, APID of each L0 data file, and the orbit number of the staged L0 data file.
- 5) Ephemeris files (platform position and velocity vectors, and platform attitude/attitude rate data).
- 6) Metadata (time range, orbit number range, and platform).

The orbit and attitude data transferred to the SDP Toolkit is transferred in the native format of the host hardware. The native format of all host hardware is HDF-EOS format.

Test Configuration:

- Hardware: Science Processing HWCI, PLANG HWCI.
- Software: PRONG Data Pre-Processing, PRONG Data Management, SDPTK
- Data: EOS AM Spacecraft ancillary data of varying quality (some of the data will have holes and erroneous data).
- Tools:

Test Input:

EOS AM Spacecraft ancillary data is provided to processing.

Test Output:

Metadata will be updated to note missing or erroneous data. A report will be generated which specifies the quality of the onboard orbit data. A file which contains the information for the SDPTK as specified above.

Success Criteria:

Planning will kick off the DPREP process at the specified time. The successful entry into the metadata of any missing and/or erroneous data. A report which correctly notes the quality of the onboard orbit data. The successful storing of the data in a file for the SDPTK as specified in the test case description.

L3 Requirements:

DADS0140#B, DADS0770#B, DADS0780#B, DADS0800#B, EDOS-4.2.2-#B, EDOS-4.2.3-#B, EDOS-4.4.2.1-a#B, EDOS-4.4.2.1-b#B, EDOS-4.4.2.4#B, EDOS-4.4.3.1-a#b, EDOS-4.4.3.1-b#B, EDOS-4.4.3.4#B, EDOS-4.4.3.5-#B, EDOS-B.4.2#B, EDOS-C.4.2#B, EDOS-

C.4.3#B, PGS-0455#B, PGS-0456#B, PGS-0458#B, PGS-0500#B, PGS-0520#B, PGS-1015#B, PGS-1100#B, SDPS0020#B.

L4 Requirements:

S-DPS-30300, S-DPS-30320, S-DPS-30600, S-DPS-30710, S-DPS-30750, S-DPS-30770, S-DPS-30900, S-DPS-30910, S-DPS-30920, S-DPS-31010, S-DPS-31030

4.1.5.6.3 Test Case 3: Warning Messages (B233.01.03)

This test verifies that warning messages will be displayed to the operations staff indicating revised completion times if processing will not complete as per the original schedule. The operator can set a timer specifying how long processing has to complete the job after the input data has arrived. There is another timer to indicate how long after that to wait before sending out the warning message.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server, Science Processing HWCI
- Software: Production Planning Workbench, PDPS Database Server, PRONG, Autosys
- Data: Processing and reprocessing requests, active site production plan.
- Tools:

Test Input:

Processing and Reprocessing requests, some will finish on time, some will finish after the first timer has expired but prior to the second, and some will finish after both timers have expired.

Test Output:

Warning messages will be displayed indicating the revised completion times.

Success Criteria:

Warning messages will be displayed when processing will not complete within the specified amount of time past the originally scheduled completion time. The revised completion times will also be displayed.

L3 Requirements:

PGS-0295#B

L4 Requirements:

S-PLS-01230

4.2 Phase 2 Test Cases

4.2.1 Data Server Subsystem

4.2.1.1 Document Server Search and Performance Thread (T209-11.02)

The following thread verifies the ability of the Document Server to accept and appropriately respond to search requests. Search results are obtained for queries submitted, and the results are returned to the requester.

4.2.1.1.1 Test Case 1: Guide Search Performance Test (T209-11.02.01)

This test verifies the capability to complete a search for a guide document. The software will be able to do this by a single keyword; however, the search is not to exceed 8 seconds.

Test Configuration:

- Hardware: workstation
- Software: DDSRV
- Data: Guide Document
- Tools: Guide Document Interface (real or simulated)

Test Input:

Submit single keyword searches to guide and collect information on search time.

Test Output:

Submit searches successfully and return guide data.

Success Criteria:

Search will not take any longer than 8 seconds for a single keyword search.

L3 Requirements:

IMS-1780#B

L4 Requirements:

S-DSS-10300

4.2.1.1.2 Test Case 2: Directory Single Keyword Search Performance Test (T209-11.02.02)

This test verifies the capability to complete a directory search. The software will be able to do this by a single keyword search, not to exceed 8 seconds.

Test Configuration:

- Hardware: workstation

- Software: DDSRV
- Data: Search directory
- Tools: Directory Interface (real or simulated)

Test Input:

Submit single keyword searches for directories and collect information on search time.

Test Output:

Search results are returned to the requester.

Success Criteria:

Single keyword search will not take any longer than 8 seconds for a directory search.

L3 Requirements:

IMS-1780#B

L4 Requirements:

S-DSS-10305

4.2.1.1.3 Test Case 3: Directory Multiple Keyword Search Performance Test (T209-11.02.03)

This test verifies the capability to complete a directory search. The software will be able to do this by using multiple keywords; however, the search is not to exceed 13 seconds.

Test Configuration:

- Hardware: workstation
- Software: DDSRV
- Data: Search Directory
- Tools: Directory Interface (real or simulated)

Test Input:

Submit multiple keyword searches for directories and collect information on search time.

Test Output:

Search results are returned to the requester.

Success Criteria:

Multiple keyword search will not take any longer than 13 seconds for directory search.

L3 Requirements:

IMS-1780#B

L4 Requirements:

S-DSS-10306

4.2.1.1.4 Test Case 4: Document Keyword Search Performance Test (T209-11.02.04)

This test verifies the capability to complete a keyword search. The software will be able to do this on a 1000 page document; however, the search is not to exceed 3 seconds.

Test Configuration:

- Hardware: workstation
- Software: DDSRV
- Data: 1000 page document (format TBD)
- Tools: Document Search Interface (real or simulated)

Test Input:

Submit a keyword search and collect information on search time.

Test Output:

Search results are returned to the requester.

Success Criteria:

Keyword search will not take any longer than 3 seconds for a 1000 page document search.

L3 Requirements:

IMS-1780#B

L4 Requirements:

S-DSS-10310

4.2.1.1.5 Test Case 5: Document Data Server System CPU and Throughput Performance Test (T209-11.02.05)

This test verifies the capability to utilize the vendor's supply tools to assist in analyzing the system's CPU performance. This test also verifies the capability to utilize the vendor's supply tools to assist in analyzing the system's throughput performance.

Test Configuration:

- Hardware: workstation
- Software: DDSRV
- Data: Several Document Data Server requests
- Tools: LoadRunner, Client Interface (real or simulated), vendor supplied tool

Test Input:

CPU and Throughput intensive operations are initialized. As the system is running, the vendor tools are used to monitor and capture CPU and Throughput performance information.

Test Output:

Statistics, displays, and vendor reports are generated and printed.

Success Criteria:

Vendor tool reports that reflect system performance are generated. CPU and Throughput performance data are successfully collected to do CPU and Throughput analysis.

L3 Requirements:

DADS1340#B, IMS-0240#B

L4 Requirements:

S-DSS-10231, S-DSS-10232

4.2.1.2 Service Request Manipulation Thread

The following thread verifies the ability to respond to commands to manipulate Service Request. This includes: updating request priority information, modification of request fields, request cancellation, request suspension, request resumption and request termination. Also, verified is the ability to use APIs for request submission.

4.2.1.2.1 Test Case 1: Operations Priority Update for Service Request Test (T209-12.02.01)

This test verifies the capability to accept operational commands to update the Priority Information for a queued Service Request.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Operational commands
- Tools:

Test Input:

A series of Service Requests are submitted. Commands are submitted to update Priority Information for specified Service Requests.

Test Output:

The Service request queue is monitored.

Success Criteria:

All commands submitted for updating Priority Information are accepted. Priority Information is updated as requested.

L3 Requirements:

DADS0525#B, DADS2210#B

L4 Requirements:

S-DSS-00210

4.2.1.2.2 Test Case 2: Operations Modification of Service Request Test (T209-12.02.02)

This test verifies the capability to accept operational commands to modify any field in a queued Service Request.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Operational commands
- Tools:

Test Input:

A series of Service Requests are submitted. Commands are submitted to modify fields for specified Service Requests.

Test Output:

The Service request queue is monitored.

Success Criteria:

All commands submitted for modifications to Service Requests are accepted. Fields are modified as requested.

L3 Requirements:

DADS0525#B, DADS0700#B

L4 Requirements:

S-DSS-00215

4.2.1.2.3 Test Case 3: User Cancellation of Service Request Test(T209-12.02.03)

This test verifies the ability to accept user commands to cancel their own Service Requests. This test also verifies the capability to notify clients that issue Cancellation Requests that the associated Service Request has been canceled or the associated Service Request is completed.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: User commands
- Tools: Client Interface (real or simulated)

Test Input:

A series of Service requests are submitted. Cancellation Requests are submitted (via user commands) for Service Requests already being processed and for Service Requests which are have not begun processing.

Test Output:

User notification of Service Request cancellation or associated Service Request completion. The Service Request queue is monitored to confirm cancellation of Request.

Success Criteria:

All cancellation requests are accepted and appropriate Service Requests are canceled. Notifications are sent to the requester. If Service Requests have begun processing when cancellation request is received, the request is not canceled. The requester is notified of completion.

L3 Requirements:

DADS0525#B, DADS0700#B, IMS-0665#B

L4 Requirements:

S-DSS-00230, S-DSS-00320

4.2.1.2.4 Test Case 4: Service Request API Test (T209-12.02.04)

This test verifies the capability to provide an application program interface (API), for the submission of Service Requests.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Data or service
- Tools:

Test Input:

Services Requests are submitted, via the API.

Test Output:

Processing results for the Service Request.

Success Criteria:

All Services Requests submitted are successfully received and processed. The requester is notified of Service Request Processing results.

L3 Requirements:

DADS3150#B, DADS3160#B, EOSD5110#B, EOSD5210#B, EOSD5250#B, EOSD5300#B, IMS-1460#B

L4 Requirements:

S-DSS-00250, S-DSS-00760

4.2.1.2.5 Test Case 5: Administrative Service Request API Test (T209-12.02.05)

This test verifies the capability to provide an application program interface (API), for the submission of Administrative Service Requests.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Data or service
- Tools:

Test Input:

Administrative Services Requests are submitted, via the API.

Test Output:

Processing results for the Service Request.

Success Criteria:

All Administrative Services Requests submitted are successfully received and processed. The requester is notified of Administrative Service Request Processing results.

L3 Requirements:

DADS1010#B, DADS3150#B, EOSD5110#B

L4 Requirements:

S-DSS-00260

4.2.1.2.6 Test Case 6: DAAC Operations Staff API Test (T209-12.02.06)

This test verifies the capability to provide an application program interface (API), for the submission of Subsetting Requests.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Data or service
- Tools:

Test Input:

Subsetting Requests are submitted, via the API.

Test Output:

Processing results for the Subsetting Request.

Success Criteria:

All Subsetting Requests submitted are successfully received and processed. The requester is notified of Subsetting Request results.

L3 Requirements:

DADS0740#B, EOSD5250#B

L4 Requirements:

S-DSS-00264

4.2.1.2.7 Test Case 7: Batch Service Request Test (T209-12.02.07)

This test verifies the capability for authorized clients to submit Service Requests in batch mode.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Data or service
- Tools: Client Interface (real or simulated)

Test Input:

Service Requests are submitted in batch mode. Requests are submitted by authorized and unauthorized requesters.

Test Output:

Service Request results for authorized requesters. Error notification to unauthorized requesters.

Success Criteria:

All authorized Service Requests are accepted and processed and results are sent to the requester. All unauthorized Service Requests are not accepted. Error notification is sent to the requester.

L3 Requirements:

EOSD2400#B, IMS-0260#B, IMS-1430#B

L4 Requirements:

S-DSS-00310

4.2.1.2.8 Test Case 8: Service Metadata Field Extension Test (T209-12.02.08)

This test verifies the capability to provide application programming interfaces (APIs) which are capable of supporting the development of extensions for the additional Metadata fields which are unique to the data maintained at a specific DAAC.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Metadata requiring field extensions
- Tools:

Test Input:

Additions to metadata fields are requested via an API.

Test Output:

Metadata is modified to include extension fields.

Success Criteria:

All requests are accepted and metadata extensions are added.

L3 Requirements:

EOSD5200#B, EOSD5250#B, EOSD5300#B, IMS-1400#B, IMS-1410#B, IMS-1420#B, IMS-1765#B

L4 Requirements:

S-DSS-01450

4.2.1.3 Data Management Thread

The following thread verifies the ability to manipulate data in the archive. This includes data updating and deletion. Data and data files are viewed before and after data manipulation.

4.2.1.3.1 Test Case 1: File Directory Record Deletion Test (T209-21.02.01)

This test verifies the capability to provide a mechanism to delete records from the File Directory.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Records to be deleted from the File Directory.
- Tools: File Directory Interface (real or simulated)

Test Input:

A series of commands are submitted to view the File Directory and delete existing records from the File Directory.

Test Output:

File Directory display.

Success Criteria:

All commands are received. The File Directory is viewed before and after File Directory record deletion. Appropriate files are deleted.

L3 Requirements:

DADS1550#B

L4 Requirements:

S-DSS-21430

4.2.1.3.2 Test Case 2: Metadata Update Test (T209-21.02.02)

This test verifies the capability for the Data Server software to update metadata under the following circumstances:

- purged data item
- relocation of data item
- addition of metadata fields

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Metadata of a purged data item, relocated data item, and new metadata fields.
- Tools: Metadata Interface (real or simulated)

Test Input:

Commands are submitted to view metadata. Operator requests are submitted to purge, update, and relocate data.

Test Output:

Metadata is displayed.

Success Criteria:

Commands to purge, relocate and update metadata are accepted and processed. Metadata is viewed before and after purge, update, and relocate commands are processed. The appropriate metadata changes are made.

L3 Requirements:

DADS1160#B

L4 Requirements:

S-DSS-04620, S-DSS-04630

4.2.1.3.3 Test Case 3: Media Data Deletion Test (T209-21.02.03)

This test verifies that for each piece of archive media, there is the ability to display how long data will remain on media before deletion. Also verified is the ability to change the length of time that data are stored on archive media before deletion of the data. Before the deletion of data, active users are notified when Data Products will be deleted. Notification is done directly or by bulletin board. Finally, this test verifies that TSDIS data sent to the MSFC DAAC is marked for deletion 6 months after it is received.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Archive media data and data products, TSDIS standard data products (Level 1B-3),
- Tools: Simulated TSDIS Interface

Test Input:

Operational commands are submitted to display media deletion dates. Commands are submitted to modify the dates. A command is submitted to modify one piece of archive media to the current date.

TSDIS standard data products (Level 1B-3) are submitted to be ingested into the data server.

Test Output:

Media is marked for deletion. Notification of data deletion is sent directly to users. Bulletin board messages of data deletion are posted. The user is notified that TSDIS data products are marked for deletion in 6 months.

Success Criteria:

Media data deletion dates are displayed and modified according to operational commands. Appropriate notifications are sent to users when data are to be deleted. New TSDIS data will be marked for deletion 6 months after it is received. Bulletin board entries are entered and displayed, telling of data deletion. The one piece of archive media marked for current deletion is deleted.

L3 Requirements:

DADS0410#B, DADS0412#B, DADS1235#B, DADS1375#B, TRMM5070#B

L4 Requirements:

S-DSS-20260, S-DSS-20270, S-DSS-20280, S-DSS-20290, S-DSS-20625, S-DSS-20720, S-DSS-20730, S-DSS-21610

4.2.1.3.4 Test Case 4: Multiple Version Storage Test (T209-21.02.04)

This test verifies the capability to provide an archive of multiple versions of data granules.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Multiple Versions of data granules
- Tools: Interface with storage (real or simulated)

Test Input:

A series of commands are submitted to insert requests to store multiple versions of a data granule.

Test Output:

Versions are indicated on inventory display.

Success Criteria:

All commands are received. The inventory is viewed before and after version inserts. The data granules are stored as version granules.

L3 Requirements:

DADS0405#B

L4 Requirements:

4.2.1.3.5 Test Case 5: Instrument Source Search Test (T209-21.02.05)

This test verifies the capability for the Data Server software to perform searches which identify the source of an instrument for a specified data product.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Instrument data
- Tools: Client Interface (real or simulated)

Test Input:

The user enters Search Requests to identify the instruments for a specified data product.

Test Output:

The instrument information is displayed.

Success Criteria:

The instruments for a user specified data product is found, and the user is informed of this information.

L3 Requirements:

IMS-1730#B

L4 Requirements:

S-DSS-04695

4.2.1.4 Product Processing Thread

The following thread verifies the ability of Data Server to interface with product generation software for processing On-Demand Product Requests, Service Requests, and metadata problem reporting.

4.2.1.4.1 Test Case 1: Data Server and Planning Interface Test (T209-22.02.01)

This test verifies that the PLANG CI has the ability to receive the following resource utility estimations in support of cost accounting On-Demand Product Requests:

- estimated disk utilization
- estimated CPU utilization
- actual disk utilization

- actual CPU utilization

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Active product requests
- Tools: PLANG interface (real or simulated)

Test Input:

Resource utilization estimates are sent by Planning software.

Test Output:

The Data Server receives the utilization estimates from Planning software.

Success Criteria:

All resource utilization estimates sent by the Planning software are received by the Data Server.

L3 Requirements:

DADS0890#B

L4 Requirements:

S-DSS-03940, S-DSS-03950, S-DSS-03990, S-DSS-04000

4.2.1.4.2 Test Case 2: Metadata Problem Report Storage Test (T209-22.02.02)

This test verifies the capability to store Metadata problem reports, notify operations staff of the receipt of Metadata problem reports, and have the Metadata problem reports given to operations staff upon request.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Invalid Metadata
- Tools:

Test Input:

Service Requests are submitted to ingest Metadata Problem Reports. Operational commands to view the Metadata Problem Reports.

Test Output:

Notification of Metadata Problem Reports to operator console, upon ingest of reports. Display of Metadata Problem Reports upon request.

Success Criteria:

All Metadata Problem Reports are successfully ingested. Appropriate notifications are sent to operations consoles. Reports are successfully displayed. Report are readable and reflect the ingested Problem Report.

L3 Requirements:

IMS-0460#B

L4 Requirements:

S-DSS-00730, S-DSS-00740, S-DSS-00750

4.2.1.4.3 Test Case 3: Reprocessing Service Request Test (T209-22.02.03)

This test verifies the capability to accept Service Requests from the Data Processing subsystem and, as a result, this test shall provide access to Data for the purpose of reprocessing.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Reprocessing Data
- Tools: Data Processing Subsystem Interface (real or simulated)

Test Input:

Service Requests for access to data are submitted by the Processing System.

Test Output:

Data for reprocessing is staged.

Success Criteria:

All Service Requests are accepted and data requested for reprocessing is staged.

L3 Requirements:

DADS0610#B

L4 Requirements:

S-DSS-00070

4.2.1.5 Operations and Client Session Control Thread

The following thread verifies the ability to perform operations on sessions. Operations include session suspension, resumption, and termination. Requests are made by user clients and operations staff.

4.2.1.5.1 Test Case 1: Operations Suspension of Client Session Test (T209-31.02.01)

This test verifies the capability to provide the operations staff with the ability to suspend all active client sessions. This test also verifies that suspended sessions are logged to a log file.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Active client sessions.
- Tools: Client Interface (real or simulated)

Test Input:

Several client sessions are opened. Operational commands are submitted for suspension of all sessions active.

Test Output:

Notification of session suspension. Log all suspended sessions.

Success Criteria:

All active sessions are suspended upon request. Complete and appropriate notification is sent to the requester. A log is created to track all suspended sessions.

L3 Requirements:

IMS-0140#B

L4 Requirements:

S-DSS-01290#B, S-DSS-01410#B

4.2.1.5.2 Test Case 2: Operations Resumption of Client Session Test (T209-31.02.02)

This test verifies the capability to provide the operations staff with the ability to resume all active client sessions. All resumed sessions must be logged.

Test Configuration:

- Hardware: workstation
- Software: SDSRV

- Data: Suspended client sessions.
- Tools: Client Interface (real or simulated)

Test Input:

Several client sessions are suspended. Operational commands are submitted for resumption of all sessions active.

Test Output:

Notification of session resumption. Log all resumed sessions.

Success Criteria:

All active sessions are resumed upon request. Complete and appropriate notification is sent to the requester. A log is created to log all resumed sessions.

L3 Requirements:

IMS-0140#B

L4 Requirements:

S-DSS-01300, S-DSS-01420

4.2.1.5.3 Test Case 3: Operations Termination of Client Session Test (T209-31.02.03)

This test verifies the capability to provide the operations staff with the ability to terminate an active client session.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Active client sessions.
- Tools: Operator Interface (real or simulated)

Test Input:

Operational commands are submitted for the termination the session.

Test Output:

Notification of session resumption. Log all terminated sessions.

Success Criteria:

All active sessions are resumed upon request. Complete and appropriate notification is sent to the requester. A log is created to log terminated sessions.

L3 Requirements:

IMS-0140#B

L4 Requirements:

S-DSS-01320

4.2.1.5.4 Test Case 4: Suspension of Client Session Test (T209-31.02.04)

This test verifies the capability to accept a client user Suspend Request to suspend processing of a client session.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Several active client sessions
- Tools: Client Interface (real or simulated)

Test Input:

A session is created. A suspend command is submitted for a session.

Several sessions are created. A suspend command is submitted for all sessions.

Test Output:

Notification of suspension sent to requester. Log suspended session.

Success Criteria:

The session is suspended. Client is notified of suspended session. A log is created to log suspended session.

L3 Requirements:

DADS0700#B, IMS-0140#B, IMS-1300#B

L4 Requirements:

S-DSS-00290, S-DSS-01220, S-DSS-01440

4.2.1.5.5 Test Case 5: Resumption of Client Session Test (T209-31.02.05)

This test verifies the capability to provide the client the ability to resume any or all active or suspended client sessions previously initiated by the client. This test also verifies the capability to accept Resume Requests to resume processing of a client session.

Test Configuration:

- Hardware: workstation
- Software: SDSRV

- Data: Suspended Sessions
- Tools: Client Interface (real or simulated)

Test Input:

Resume Request is submitted for a suspended session.

Test Output:

Notification of resumption is sent to requester. Log all resumed sessions.

Success Criteria:

Requests for suspended sessions are accepted and the appropriate session is resumed. Client receive complete and appropriate notification. A log is created to log resumed sessions.

L3 Requirements:

DADS0700#B, IMS-0140#B, IMS-1300#B

L4 Requirements:

S-DSS-00300, S-DSS-01310, S-DSS-01440

4.2.1.5.6 Test Case 6: User Termination of Client Session Test (T209-31.02.06)

This test verifies the capability to provide the client the ability to terminate any or all active or suspended client sessions previously initiated by the client.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Active sessions.
- Tools: Client Interface (real or simulated)

Test Input:

Termination Requests are submitted for active sessions.

Test Output:

Notification of termination is sent to requester.

Success Criteria:

All requested sessions are suspended. Complete and accurate notifications are sent to the requester.

L3 Requirements:

IMS-0140#B, IMS-1300#B

L4 Requirements:

S-DSS-01330, S-DSS-01440

4.2.1.6 Data Request and Search Processing Thread

The following thread verifies the capability to accept, search and process various types of Data Requests.

4.2.1.6.1 Test Case 1: Search Data Granule Subset, Subsample, and Average Request Test (T209-32.02. 01)

This test verifies the capability to provide subset, subsample, or average data within a granule based upon the following for products specified in Appendix F- Data Type Matrix: Geographic location, Spectral band, Time, and World Wide Reference System (WRS).

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Geographic location, Spectral band, Time, and WRS data available for Subsetting, Subsampling and averaging.
- Tools:

Test Input:

Submit requests to subset, subsample, and average data within the following granules: Geographic location, Spectral band, Time and WRS.

Test Output:

The request completes for Geographic location, Spectral band, Time and WRS products.

Success Criteria:

Subsets, subsamples, and average products are produced for the user requested granules based upon Geographic location, Spectral Band, Time, and WRS.

L3 Requirements:

DADS0590#B, DADS0740#B, DADS1475#B, IMS-0705#B

L4 Requirements:

S-DSS-02901, S-DSS-02902, S-DSS-02903, S-DSS-02904

4.2.1.6.2 Test Case 2: Accumulated Search Status for Active Search Test (T209-32.02.02)

This test verifies the capability to accept Search Status Requests for a specified active Search Request. Additionally, this test provides, when requested, all Search Results accumulated for that

Search Request. This test also verifies the ability to identify all Search Requests accumulated since the last Search Status Request for a specified Search Request.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Active Searches
- Tools:

Test Input:

A series of search requests. A Search Status Request for a specified active Search Request. A Request for accumulative Results for that search and a Request for Search Results accumulated since the last Search Status Request for that Search Request.

Test Output:

Search Status Request results for specified active Search Request and accumulated Search Status Request results.

Success Criteria:

All Search Status Requests submitted are received and results are returned to the requester. Results are compared to a monitored log for accuracy.

L3 Requirements:

IMS-0665#B, IMS-1300#B

L4 Requirements:

S-DSS-00115, S-DSS-00116

4.2.1.6.3 Test Case 3: Data Request Processing Test (T209-32.02.03)

This test verifies that the Data Server software is able to successfully receive Data Requests for various data and data products. The following is a list of data types to be received by the Data Server :

- Attitude Data
- Orbit Data

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Orbit and Attitude data
- Tools: Client Interface (real or simulated)

Test Input:

A series of Data Requests is submitted.

Test Output:

Data Requests are received and properly logged.

Success Criteria:

All Data Requests submitted are successfully received and logged.

L3 Requirements:

DADS0175#B, DADS1010#B

L4 Requirements:

S-DSS-00270, S-DSS-00280

4.2.1.6.4 Test Case 4: Compound Services Test (T209-32.02.04)

This test verifies that access is successfully granted for Data Requests to provide compound data type services. Compound data types are TBD.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Compound data types
- Tools: Client Interface (real or simulated)

Test Input:

A series of Data Requests for compound data type services is submitted.

Test Output:

Data Requests are received and properly logged.

Success Criteria:

All Data Requests submitted are successfully received and logged. Access is granted to compound data type services.

L3 Requirements:

IMS-0030#B, IMS-0550#B

L4 Requirements:

S-DSS-01790

4.2.1.6.5 Test Case 5: Data Request Deletion Test (T209-32.02.05)

This test verifies that a user can successfully delete their own queued Data Request.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Queued data requests
- Tools: Client Interface (real or simulated)

Test Input:

A series of Data Requests is submitted. The user submits a deletion command for a Data Request still in the Data Request queue.

Test Output:

Deleted Data Requests are no longer in the Data Request queue.

Success Criteria:

All user commands for Data Request Deletion are accepted. The Data Request is successfully deleted and is no longer in the queue.

L3 Requirements:

DADS0525#B

L4 Requirements:

S-DSS-00200

4.2.1.6.6 Test Case 6: Data Request Post Retrieval Processing Test (T209-32.02.06)

This test verifies that Data Requests requiring post-retrieval processing are successfully accepted and logged appropriately. The log file indicates the file as requiring post-retrieval processing.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Post retrieval data
- Tools: Client Interface (real or simulated)

Test Input:

A series of Data Requests is submitted. Some requests are for data requiring post-retrieval processing.

Test Output:

A log file is updated to indicate Data Requests.

Success Criteria:

All Data Requests submitted are accepted and logged. Those Data Requests requiring post-retrieval processing are indicated as needing post-retrieval processing in the log.

L3 Requirements:

DADS2200#B

L4 Requirements:

S-DSS-00240

4.2.1.6.7 Test Case 7: On-Demand Data Request Processing Test (T209-32.02.07)

This test verifies that On-Demand Data Requests are successfully accepted and logged appropriately. The On-Demand Data Request is processed to determine if the data required to complete on-demand processing is available. If the data required to process the On-Demand Request is not available, a notification is displayed. Also the requester of the On-Demand Request is notified that the request cannot be completed.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Data for On-Demand requests
- Tools: Client Interface (real or simulated)

Test Input:

An On-Demand Data Request is submitted. Not all data needed to complete the request is available.

Test Output:

A log file indicates receipt of the On-Demand Data Request. Notices are sent to the operator and the requester.

Success Criteria:

A log file is updated to indicate receipt of the Data Request. A notification is displayed on the operators terminal indicating that data needed to complete the request is not available. A notification is also displayed on the requesters terminal indicating that on-demand data production cannot be completed.

L3 Requirements:

DADS0370#B, DADS0498#B, DADS0520#B, DADS0910#B, IMS-0930#B

L4 Requirements:

S-DSS-00180, S-DSS-01080, S-DSS-01200, S-DSS-04500

4.2.1.7 Media Distribution II Thread

The following thread verifies the ability to accept distribution requests for distribution of data via 4mm tape and FAX transmissions. Error management is check for all media distribution. Cost accounting information based on media and resources used, is recorded.

4.2.1.7.1 Test Case 1: 4mm Tape Distribution Test (T209-41.02.01)

This test verifies the capability to distribute information on 4mm tapes.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Data for 4mm distribution
- Tools: 4mm tape drive. Interface to 4mm tape drive (real or simulated)

Test Input:

Operator commands to copy requesting physical media distribution on 4mm tape. Operator commands are submitted to retrieve data and place the data on the media.

Test Output:

Notifications to the operators console display successful transfer of data onto media. The data requested is placed on 4mm tape.

Success Criteria:

Data on the physical media when compared to data in storage, finds no significant differences.

L3 Requirements:

DADS2490#B, DADS2530#B, SDPS0100#B

L4 Requirements:

S-DSS-30450

4.2.1.7.2 Test Case 2: FAX Transmission Test (T209-41.02.02)

This test verifies the capability to distribute documents electronically through/via FAX transmissions.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Documents for FAX transmissions
- Tools: FAX machine

Test Input:

A series of data distribution requests is submitted, requesting fax distribution.

Test Output:

Documentation is sent by Fax to requester.

Success Criteria:

All data requests for Fax transmission of documents are accepted, and documents are successfully transmitted.

L3 Requirements:

DADS2580#B

L4 Requirements:

S-DSS-30620

4.2.1.7.3 Test Case 3: Correctable Error Threshold Test (T209-41.02.03)

This test verifies that the operations staff has the capability to specify a threshold of correctable errors for each type of distribution media. Also, if the number of correctable errors exceed a system threshold for a piece of media, the software shall be capable of aborting the operation, and automatically requests a new piece of media from the operations staff.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data:
- Tools:

Test Input:

Commands are submitted to view, and then modify the correctable error threshold. Data transfer requests are submitted, to exceed the correctable error threshold.

Test Output:

Notifications are displayed to the console, indicating over threshold limits. New media is requested.

Success Criteria:

Over threshold limits for correctable errors which exceed correctable error thresholds are detected. The error is recorded in a log and notification is sent, requesting new media.

L3 Requirements:

DADS2530#B

L4 Requirements:

S-DSS-30500, S-DSS-30510

4.2.1.7.4 Test Case 4: Media Cost Record Test (T209-41.02.04)

This test verifies the capability to record the cost of the media to be used for accounting. This is for physical media distributions.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Data on media costs
- Tools:

Test Input:

A series of data distribution requests are submitted for various media distribution.

Test Output:

Data media generation costs are recorded.

Success Criteria:

Correct and accurate costs are recorded for all media distribution requests submitted.

L3 Requirements:

DADS0880#B, DADS0890#B, DADS0901#B

L4 Requirements:

S-DSS-30245, S-DSS-30795

4.2.1.8 Data Insert Thread

The following thread verifies the capability for the Data Server to receive and store data and metadata, verify data, and interface with storage management software to store the data in the archive.

4.2.1.8.1 Test Case 1: Data Receipt Test (T209-42.02.01)

This test verifies the capability of receiving or storing the following types of data or production plans:

- LO-L4 data
- Ancillary data
- Metadata associated with Ancillary data
- FDF Orbit data (AM-1 instruments)
- FDF Metadata for Orbit and Attitude data (AM-1 instruments)
- Real EOS instrument data to support pre-launch checkout of the ground system
- Simulated EOS instrument data to support pre-launch checkout of the ground system
- Orbit/Attitude data
- Metadata for Orbit/Attitude data
- Spacecraft Historical data
- TBD Special Data Products
- Metadata associated with TBD Special Data Products

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: L0-L4 data, Ancillary data and associated metadata, AM-1 Orbit data, AM-1 FDF Metadata for Orbit and Attitude data, Real EOS instrument data, Simulated EOS instrument data, Orbit and Attitude data and associated metadata, Spacecraft Historical data, and TBD special data products and associated metadata
- Tools: Interface with external data sources (real or simulated)

Test Input:

A series of service requests are submitted or stored with several different types of data.

Test Output:

Status messages indicating successfully storing or receiving data.

Success Criteria:

Each request submitted is accepted and processed.

L3 Requirements:

DADS0120#B, DADS0130#B, DADS0140#B, DADS0145#B, DADS0160#B, DADS0170#B, DADS0175#B, DADS0190#B, DADS0200#B, DADS0210#B, DADS0260#B, DADS0282#B, DADS0440#B, DADS0450#B, DADS2180#B, EOSD1750#B, PGS-1025#B

L4 Requirements:

S-DSS-03002, S-DSS-03004, S-DSS-03006, S-DSS-03050, S-DSS-03060, S-DSS-03100, S-DSS-03122, S-DSS-03124, S-DSS-03190, S-DSS-03200, S-DSS-03290, S-DSS-03330, S-DSS-03340, S-DSS-03600, S-DSS-03700

4.2.1.8.2 Test Case 2: Data Compliance Test (T209-42.02.02)

This test verifies the capability to verify compliance of scientist provided data with EOSDIS defined standards for file content and structure (not scientific content).

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Scientist provide data, EOSDIS defined standards for file content and structure
- Tools:

Test Input:

A series of service requests are submitted. Some requests contain data which does not comply to EOSDIS defined standards for file content and structure.

Test Output:

Status messages indicating successful or unsuccessful verification.

Success Criteria:

Service requests which follow EOSDIS standards are verified as valid. Service requests which do not follow EOSDIS standards are verified as invalid.

L3 Requirements:

DADS0320#B, IMS-0450#B, IMS-0455#B, IMS-1450#B

L4 Requirements:

S-DSS-03400, S-DSS-03410

4.2.1.8.3 Test Case 3: Data Storage Test (T209-42.02.03)

This test verifies the capability to do the following things:

- Interface with the STMGIT CI to provide storage for FDF Orbit Data for AM-1 instruments

- Interface with the STMGT CI to provide storage for Metadata associated with FDF Orbit Data for AM-1 instruments.
- Interface with the STMGT CI to provide storage for spacecraft historical data
- Ability to store references to Orbit/Attitude Data as Metadata for science data
- Ability to archive real EOS instrument data to support pre-launch checkout of the ground system and instruments
- Ability to archive simulated EOS instrument data to support pre-launch checkout of the ground system and instruments
- Ability to provide storage for Metadata associated with TBD special Data Products.
- Ability to provide storage for real EOS instrument data to support pre-launch checkout of the ground system. and instruments
- Ability to provide storage for simulated EOS instrument data to support pre-launch checkout of the ground system and instruments.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: L0-L4 data, Ancillary data and associated metadata, AM-1 Orbit data, AM-1 FDF Metadata for Orbit and Attitude data, Real EOS instrument data, Simulated EOS instrument data, Orbit and Attitude data and associated metadata, Spacecraft Historical data, and TBD special data products and associated metadata
- Tools:

Test Input:

A series of requests are submitted for data and metadata storage.

Test Output:

Data are archived.

Success Criteria:

Each request submitted is accepted and processed. All data are placed in the archive.

L3 Requirements:

DADS0160#B, DADS0175#B, DADS0281#B, DADS0282#B, DADS0370#B, DADS0440#B, DADS0450#B, IMS-0330#B, PGS-1025#B

L4 Requirements:

S-DSS-03460, S-DSS-03470, S-DSS-03492, S-DSS-03494, S-DSS-03660, S-DSS-03710, S-DSS-04410, S-DSS-20450, S-DSS-20457, S-DSS-20460, S-DSS-20465

4.2.1.8.4 Test Case 4: Insert API Test (T209-42.02.04)

This test verifies the ability to provide application programming interfaces (APIs) to support Insert Request and to provide status on previous Insert Requests.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Previous insert requests
- Tools:

Test Input:

Insert requests are submitted via an API.

Test Output:

Data inserted as per request. Status is reported regarding previous Insert Requests.

Success Criteria:

All requests are accepted and data are successfully inserted. Status is successfully maintained on previous Insert Requests.

L3 Requirements:

DADS1730#B, EOSD5110#B, EOSD5220#B, IMS-1400#B

L4 Requirements:

S-DSS-21280, S-DSS-21300

4.2.1.8.5 Test Case 5: Receiving Data Test (T209-42.02.05)

This test verifies that the data server software is capable of receiving DAO data, NMC data, and interfacing with storage management software for data storage. This test verifies the capability to receive the following types of data:

- NMC data
- First Look Products from the DAO
- Re analysis Products from the DAO
- Final Analysis Products from the DAO

Test Configuration:

- Hardware: workstation

- Software: SDSRV
- Data: NMC data, DAO First Look Products, DAO Re analysis Products, and DAO Final analysis products
- Tools: DAO Interface (real or simulated) and NMC Interface (real or simulated)

Test Input:

DAO data are submitted.

Test Output:

DAO data are accepted by the data server.

Success Criteria:

All data submitted is successfully accepted by the data server.

L3 Requirements:

DADS0180#B

L4 Requirements:

S-DSS-03361, S-DSS-03362, S-DSS-03363, S-DSS-03364, S-DSS-03741, S-DSS-03742, S-DSS-03743, S-DSS-03744

4.2.1.9 Data Server System Management Thread

The following thread verifies the ability to monitor the Data Server System, manage the storage archive devices and appropriately respond to system faults. Also verified is the ability of the Data Server to recover the system when a fault occurs. This includes verifying the ability of Data Server to interface with SMC software to send fault information to SMC and receive management directives from SMC.

4.2.1.9.1 Test Case 1: Storage Operating Parameter Test (T209-51.02.01)

This test verifies the capability to provide the operations staff with a mechanism to display/view a storage system operating parameters which affect storage system performance and scheduling. Also, this test verifies the capability to provide the operations staff the ability to change storage system operating parameters which affect storage system performance. Operating parameters are TBD.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data:
- Tools:

Test Input:

Operational commands to display operating parameters. Operational commands are submitted to modify operational parameters.

Test Output:

Operational parameter displays.

Success Criteria:

Operational commands for display and modification of operating parameters are received. Operational parameters are noted before and after modifications. Parameters changes reflect the commands submitted.

L3 Requirements:

DADS1472#B, DADS1620#B

L4 Requirements:

S-DSS-20550, S-DSS-20560, S-DSS-20570, S-DSS-20580

4.2.1.9.2 Test Case 2: Archive Media Removal Test (T209-51.02.02)

This test verifies the capability to provide the operations staff the ability to alter the criteria that determines removal of archive media from storage devices to allow insertion of new or different archive media in the storage device. Note, that in determining the archive media that should be removed, the criteria shall consider the media's capacity for storing additional data, the last time data was accessed on the media and whether the media is currently in use to store or retrieve data.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Already existing data regarding archive media on storage devices
- Tools:

Test Input:

Operational commands are submitted to display the criteria of media device removal. Operational commands are submitted to modify the criteria. At least one request for each criteria selection is submitted. A series of Service Requests are submitted, enough to cause removal of media.

Test Output:

Media criteria device display.

Success Criteria:

All operational commands are accepted and criteria information is displayed or modified according to the command. Archive is successfully removed according to current parameter criteria.

L3 Requirements:

DADS0435#B, DADS1791#B

L4 Requirements:

S-DSS-20820, S-DSS-20830

4.2.1.9.3 Test Case 3: Storage System Report Generation Test (T209-51.02.03)

This test verifies the capability to report information on the storage system. Information reported should include:

- file access time
- file accesses per hour
- size of files retrieved onto archive media
- size of files retrieved from archive media
- amount of storage allocated
- average file access time
- average file accesses per hour
- mean request inter-arrival time
- average file size stored
- average file size retrieved
- average file residency time on disk

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Files
- Tools:

Test Input:

A series of Service Requests are submitted for the purpose of collecting system information. Commands are submitted to display system reports on data collected during Service Request Processing.

Test Output:

Report are displayed.

Success Criteria:

Reports accurately display system data.

L3 Requirements:

DADS0901#B

L4 Requirements:

S-DSS-20840, S-DSS-20850

4.2.1.9.4 Test Case 4: Archive Performance Monitoring Test (T209-51.02.04)

This test verifies the capability to monitor the performance of the ECS archival storage system. Also, the operations staff is provided with the capability to view/display performance information on the storage system.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Archive data.
- Tools:

Test Input:

A series of Service Requests are submitted for the purpose of collecting storage system performance data. Commands are submitted to display performance information.

Test Output:

Reports are displayed.

Success Criteria:

Reports accurately display performance information.

L3 Requirements:

DADS0901#B, DADS1340#B, DADS1370#B, DADS1710#B

L4 Requirements:

S-DSS-20624, S-DSS-20860, S-DSS-20870

4.2.1.9.5 Test Case 5: Storage System Utilization Display Test (T209-51.02.05)

This test verifies the capability to provide the operations staff with a mechanism to display/view storage system utilization by ECS element.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data:

- Tools:

Test Input:

A series of Service Requests are submitted for the purpose of collecting system utilization information. Commands are submitted to display utilization information.

Test Output:

Reports are displayed by ECS element.

Success Criteria:

Reports accurately display system utilization.

L3 Requirements:

DADS1360#B, DADS1470#B

L4 Requirements:

S-DSS-21240, S-DSS-21250

4.2.1.9.6 Test Case 6: Document Data Server Fault Management Data Collection Test (T209-51.02.06)

This test verifies the capability to collect fault management information and send the information to SMC. Fault Management Information includes the following:

- device failures
- Service Request failures
- transmission failures
- general failures

Test Configuration:

- Hardware: workstation
- Software: DDSRV
- Data:
- Tools: SMC connection

Test Input:

A series of Document Service Requests are submitted. Failures are introduced either by taking hardware off-line or by using UNIX utilities and commands to terminate processes.

Test Output:

Failure information is logged and collected into files. These files are delivered to SMC.

Success Criteria:

All failures are logged and information is collected. This failure information is successfully sent to SMC.

L3 Requirements:

DADS1320#B, DADS1330#B

L4 Requirements:

S-DSS-10233

4.2.1.9.7 Test Case 7: SMC and Data Server Interface Test (T209-51.02.07)

This test verifies the capability for SMC and Data Server to send and receive data. This is accomplished by utilizing and verifying operational commands to be used by the operations staff. SMC and Data Server data exchange includes:

- logistics status to SMC
- maintenance directives from SMC
- integration, testing, and simulation directives from SMC
- configuration management directives from SMC
- logistic management directives from SMC
- fault management directives from SMC
- security directives from SMC
- scheduling and adjudication directives from SMC
- integration, testing, and simulation status to SMC
- training management directives from SMC
- training information to SMC

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Operational commands
- Tools: SMC interface connection

Test Input:

A series of operational commands are submitted for the transfer of directives and status information between SMC and the Data Server.

Test Output:

The data transfer is monitored and logged.

Success Criteria:

All data are transferred successfully and logged appropriately.

L3 Requirements:

DADS0100#B, DADS1980#B, DADS2000#B, DADS2010#B, EOSD2400#B, IMS-1270#B, IMS-1630#B, IMS-1640#B, SDPS0015#B

L4 Requirements:

S-DSS-00920, S-DSS-00930, S-DSS-00980, S-DSS-00990, S-DSS-01000, S-DSS-01010, S-DSS-01020, S-DSS-01030, S-DSS-01035, S-DSS-01040, S-DSS-01050

4.2.1.9.8 Test Case 8: Resource Availability Test (T209-51.02.08)

This test verifies the capability to inform the collocated elements of ECS if resource availability falls below nominal operating parameters.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data:
- Tools:

Test Input:

Operator command to view nominal parameters. Configure system to have resource availability fall below nominal operating parameters.

Test Output:

Notification to collocated elements of below nominal operating parameters.

Success Criteria:

Upon resource availability falling below nominal operating parameters, collocated elements are notified.

L3 Requirements:

DADS2230#B

L4 Requirements:

S-DSS-00840

4.2.1.9.9 Test Case 9: Restart Test (T209-51.02.09)

This test verifies the capability for recovering the state of all Service Requests, which includes the rollback of incomplete Data Base Transactions, and the recovery of all complete Data Base Transactions in the event of a restart after a processing failure.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Recovery archive
- Tools:

Test Input:

A series of Service Requests are submitted and monitored. During Service Request processing a system failure is imposed, either by taking hardware off-line or by using UNIX utilities and commands to terminate processes. Operator commands are submitted for system restart, rollback and recovery.

Test Output:

System logs indicate system failure. System recovery is monitored.

Success Criteria:

All completed data base transactions are recovered. All incomplete data base transactions are returned to their state before interruption.

L3 Requirements:

IMS-0240#B, IMS-1440#B

L4 Requirements:

S-DSS-01360

4.2.1.9.10 Test Case 10: Operations Altering of Storage Devices Test (T209-51.02.10)

This test verifies that the operations staff will provide the capability to manually alter the criteria that determines the physical storage device that data sets will be stored in. The following operator selectable criteria will be verified: current store and retrieval activity, the number of storage devices, and the type of data to be stored.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Physical storage device data sets criteria
- Tools:

Test Input:

Operational commands are submitted for altering storage device criteria. (Inputs will include criteria based upon current store and retrieval activity, the number of storage devices, and the type of data to be stored.)

Test Output:

Storage device criteria is displayed.

Success Criteria:

Criteria displayed reflects the changes submitted via operation command.

L3 Requirements:

DADS0430#B

L4 Requirements:

S-DSS-20800, S-DSS-20810

4.2.1.9.11 Test Case 11: Science Data Server Fault Management Data Collection Test (T209-51.02.11)

This test verifies the capability to collect fault management information and send the information to SMC. Fault Management Information includes the following:

- device failures
- Service Request failures
- transmission failures
- general failures

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data:
- Tools: SMC Interface (real or simulated)

Test Input:

A series of Science Service Requests are submitted. Failures are introduced either by taking hardware off-line or by using UNIX utilities and commands to terminate processes.

Test Output:

Failure information is logged and collected into files. These files are delivered to SMC.

Success Criteria:

All failures are logged and information is collected. This failure data are successfully sent to SMC.

L3 Requirements:

DADS0901#B, DADS0925#B, DADS1320#B, DADS1330#B, IMS-1760#B

L4 Requirements:

S-DSS-00830

4.2.1.10 Data Server DAR Thread

The following thread verifies the capability for the Data Server to receive data and metadata, verify data, and interface with storage management software to store the data in the archive.

4.2.1.10.1 Test Case 1: Data Server and Aster ICC Interface Test (T209-52.02.01)

This test verifies the capability to accept DARs from an IP and provide DARs to ASTER ICC. This includes providing DAR status requests to ASTER ICC and accepting DAR status from ASTER ICC.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: DARs
- Tools: ASTER Interface (real or simulated)

Test Input:

DAR's are accepted by the data server and provided to ASTER ICC. DAR status requests are accepted by the data server and provided to ASTER ICC.

Test Output:

DAR status is returned.

Success Criteria:

For each DAR submitted to the data server, the DAR is provided to ASTER ICC. DAR status is requested and appropriate and complete status information is returned.

L3 Requirements:

ASTER-0020#B, ASTER-0030#B, IMS-0140#B, IMS-0665#B, IMS-1230#B, IMS-1261#B, IMS-1262#B

L4 Requirements:

S-DSS-04720, S-DSS-04750, S-DSS-04770, S-DSS-04780

4.2.1.10.2 Test Case 2: Data Server and Client Interface Test (T209-52.02.02)

This test verifies the capability to accept DARs from the client and provide DARs to ASTER ICC. This includes providing DAR status requests to ASTER ICC and accepting DAR status

from ASTER ICC. This test also verifies accepting Subscription Requests from the client linked to a specified, existing DAR.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: DARs
- Tools: ASTER Interface (real or simulated)

Test Input:

- DAR's are accepted by the data server and provided to ASTER ICC. DAR status requests are accepted by the data server and provided to ASTER ICC.
- Subscription requests are submitted to an existing DAR.

Test Output:

- DAR status is returned.
- DAR subscription request is submitted.

Success Criteria:

For each DAR submitted to the data server, the DAR is provided to ASTER ICC. DAR status is requested and appropriate and complete status information is returned. For each DAR subscription request, the request is completed and the completed status information is returned.

L3 Requirements:

IMS-0140#B, IMS-0280#B, IMS-0665#B, IMS-0740#B, IMS-0920#B, IMS-1080#B, IMS-1230#B

L4 Requirements:

S-DSS-04730, S-DSS-04740, S-DSS-04760

4.2.1.10.3 Test Case 3: Operations DAR Display Test (T209-52.02.03)

This test verifies the capability to provide the operations staff with the ability to display and list outstanding DARs that are accessible by the Data Server.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Outstanding DARs
- Tools:

Test Input:

Operational commands are submitted for display of outstanding DARs

Test Output:

Outstanding DARs are displayed.

Success Criteria:

The DAR display is accurate and readable.

L3 Requirements:

IMS-1650#B, IMS-1700#B

L4 Requirements:

S-DSS-04745

4.2.1.11 Data Retrieval Thread

The following thread verifies the capability to retrieve data from the archive and place the data on staging disks. Staging device delay time estimates are determined for sub-sampled, subsetting, or summary data. Staging device delay time estimates are also determined for situations where data retrieval requests are in contention for available hardware resources.

4.2.1.11.1 Test Case 1: Data Retrieval Test (T209-61.02.01)

This test verifies the capability to retrieve various data and data products from the ECS archive. The following list contains the data and data products to be retrieved:

- real EOS instrument data to support pre-launch checkout of ground systems
- simulated EOS instrument data to support pre-launch checkout of ground systems
- EDOS L0 data
- Retrieve simulated EOS instrument data to support pre-launch checkout of the ground system

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Real EOS instrument data, Simulated EOS instrument data, EDOS L0 data
- Tools:

Test Input:

A series of Data Retrieval Requests are submitted.

Test Output:

Data Requests are received and properly logged.

Success Criteria:

All Data Requests submitted are successfully received and logged. The data are retrieved from the archive and placed on the staging device.

L3 Requirements:

DADS0210#B, DADS0282#B, DADS2307, EDOS-4.4.2.1#B, EDOS-4.4.2.2#B, EDOS-4.4.2.6#B, EDOS-4.4.2.7#B, EDOS-4.4.2.8#B, EDOS-4.4.3.1#B, EDOS-4.4.3.2#B, EDOS-4.2.2#B, EDOS-4.2.3#B, EDOS-4.2.7#B, EDOS-4.2.8#B, EDOS-4.4#B, EDOS-4.5#B, EDOS-4.6#B

L4 Requirements:

S-DSS-20455, S-DSS-20462, S-DSS-20470, S-DSS-20750

4.2.1.11.2 Test Case 2: Staging Delay Estimate Test (T209-61.02.02)

This test verifies the capability to estimate the time delay for data retrieval to staging disk for the following:

- contention of hardware resources
- sub-sampled data
- subsetted data
- summary data

This test will also verify that this information is sent to IMS for processing.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Sub-sampled data, Subsetted data, and summary data.
- Tools: IMS Interface (real or simulated). An ICD for interface.

Test Input:

A series of Data Retrieval Requests are submitted. These requests are for sub-sampled, subsetted and summary data. Retrieval requests submitted are in contention for hardware resources.

Test Output:

Data Requests are received and properly logged. Estimates of staging device delay times are displayed to screen and sent to IMS.

Success Criteria:

Estimates of delay time are displayed to the terminal screen and sent to IMS.

L3 Requirements:

DADS0930#B

L4 Requirements:

S-DSS-21130, S-DSS-21140, S-DSS-21150, S-DSS-21320

4.2.1.11.3 Test Case 3: Automatic Ingest of Inaccessible Data Test (T209-61.02.03)

This test verifies that for any EOS Level 0 or Level 1A data item, which can not be located or is inaccessible and can not be re-created, the storage software will automatically request the data item be reingested from EDOS. This test also verifies that operational personnel has the ability to screen archive holdings for lost volumes.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: EOS Level 0, EOS Level 1A
- Tools: EDOS interface (real or simulated)

Test Input:

- A request is submitted by the operator to screen archive holdings for lost volumes.
- A request is submitted for Level 0 or Level 1A data products which are not accessible.

Test Output:

- A request is submitted for ingest of the data.
- Lost volumes/inaccessible volumes are identified to the operator.

Success Criteria:

After lost volumes are identified to the operator, the requested data are successfully reingested.

L3 Requirements:

DADS1450#B, EDOS-4.4.2.2#B, EDOS-4.4.2.8#B, EDOS-4.4.3.2#B, EDOS-4.2.7#B, EDOS-4.2.8#B, EDOS-4.6#B

L4 Requirements:

S-DSS-20171, S-DSS-20210

4.2.1.11.4 Test Case 4: Retrieval API Test (T209-61.02.04)

This test verifies the capability to provide an application program interface (API), for the submission of Retrieval Requests and Retrieval Request Status.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Retrieval data
- Tools: Client Interface (real or simulated)

Test Input:

Retrieval Requests and Retrieval Status Requests are submitted, via the API.

Test Output:

Retrieval Request acknowledgments and Retrieval Request status.

Success Criteria:

All Retrieval Requests submitted are successfully received and processed. All requests are acknowledged. Request status is returned to the requester.

L3 Requirements:

DADS1730#B, EOSD5110#B, EOSD5220#B

L4 Requirements:

S-DSS-21290, S-DSS-21310

4.2.1.12 MSS Application Programming Interface (API) Thread

The following thread verifies the capability that SDSRV, STMGT, DDIST, and DDSRV will collect and provide different types of data such as Accountability Management data, Performance Management data, Security Management data, Scheduling Management data, Distribution Management data, Configuration Management data, and Accounting Management data to the MSS.

4.2.1.12.1 Test Case 1: Science Data Server MSS API Test (T209-62.02.01)

This test verifies the capability to collect and provide different types of data that will be provided to the MSS from the Science Data Server:

- Configuration Management data will be provided to the MSS using a MSS provided Configuration Management API
- Accounting Management data will be provided to the MSS using a MSS provided Accounting Management API
- Accountability Management data will be provided to the MSS using a MSS provided Accountability Management API
- Performance Management data will be provided to the MSS using a MSS provided Performance Management API

- Security Management data will be provided to the MSS using a MSS provided Security Management API
- Scheduling Management data will be provided to the MSS using a MSS provided Scheduling Management API

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Data available for access and manipulation
- Tools: MSS Interface (real or simulated)

Test Input:

During a Science Data Server interface initiated from MSS, issue a request to provide the following data during a user-initiated product request: Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data.

Test Output:

The Science Data Server collects and provides MSS with Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data.

Success Criteria:

The Science Data Server must provided Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data to the MSS. The MSS must generate a report for each data type with the following information:

- Configuration Management Data Report must contain data regarding specific versions of individual software, data, and hardware items as they relate to each other, and information which describes changes to such configuration.
- Accounting Management Data Report must contain data used for accounting and billing purposes. This information includes: the request identifier, the date and time of the request, the media cost, the CPU utilization, the personnel costs, the shipping and handling costs, the networking costs, and the archival costs (as applicable).
- Accountability Management Data Report must contain information about ECS services utilized by the user who initiated the Science Data Server session. (This is done for purposes of accountability and an audit trail.)
- Performance Management Data Report must track the performance of individual system components for resource utilization.

- Security Management Data Report must report, track and alert MSS of system activities (such as logon and logoff).
- Scheduling Management Data Report must provide information about schedules for startup, shutdown, restart, and reservations of SDPS resources.

L3 Requirements:

DADS0901#B, IMS-1620#B

L4 Requirements:

S-DSS-00822, S-DSS-00823, S-DSS-00824, S-DSS-00825, S-DSS-00826, S-DSS-00827

4.2.1.12.2 Test Case 2: Storage Management MSS API Test (T209-62.02.02)

This test verifies the capability to collect and provide different types of data that will be provided to the MSS from the Storage Management:

- Configuration Management data will be provided to the MSS using a MSS provided Configuration Management API
- Accounting Management data will be provided to the MSS using a MSS provided Accounting Management API
- Accountability Management data will be provided to the MSS using a MSS provided Accountability Management API
- Performance Management data will be provided to the MSS using a MSS provided Performance Management API
- Security Management data will be provided to the MSS using a MSS provided Security Management API
- Scheduling Management data will be provided to the MSS using a MSS provided Scheduling Management API

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Data available for access and manipulation
- Tools: MSS Interface (real or simulated)

Test Input:

During a Storage Management interface initiated from MSS, issue a request to provide the following data during a user-initiated product request: Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data.

Test Output:

Storage Management collects and provides MSS with Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data.

Success Criteria:

Storage Management must provide Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data to the MSS. The MSS must generate a report for each data type with the following information:

- Configuration Management Data Report must contain data regarding specific versions of individual software, data, and hardware items as they relate to each other, and information which describes changes to such configuration.
- Accounting Management Data Report must contain data used for accounting and billing purposes. This information includes: the request identifier, the date and time of the request, the media cost, the CPU utilization, the personnel costs, the shipping and handling costs, the networking costs, and the archival costs (as applicable).
- Accountability Management Data Report must contain information about ECS services utilized by the user who initiated the Storage Management session. (This is done for purposes of accountability and an audit trail.)
- Performance Management Data Report must track the performance of individual system components for resource utilization.
- Security Management Data Report must report, track and alert MSS of system activities (such as logon and logoff).
- Scheduling Management Data Report must provide information about schedules for startup, shutdown, restart, and reservations of SDPS resources.

L3 Requirements:

DADS0901#B, IMS-1620#B

L4 Requirements:

S-DSS-00829, S-DSS-00835, S-DSS-00836, S-DSS-00837, S-DSS-00838, S-DSS-00839

4.2.1.12.3 Test Case 3: Data Distribution MSS API Test (T209-62.02.03)

This test verifies the capability to collect and provide different types of data that will be provided to the MSS from the Data Distribution:

- Configuration Management data will be provided to the MSS using a MSS provided Configuration Management API
- Accounting Management data will be provided to the MSS using a MSS provided Accounting Management API

- Accountability Management data will be provided to the MSS using a MSS provided Accountability Management API
- Performance Management data will be provided to the MSS using a MSS provided Performance Management API
- Security Management data will be provided to the MSS using a MSS provided Security Management API
- Scheduling Management data will be provided to the MSS using a MSS provided Scheduling Management API
- Distribution Management data will be provided to the MSS using a MSS provided Configuration Management API

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Data available for access and manipulation
- Tools: MSS Interface (real or simulated)

Test Input:

During a Data Distribution interface initiated from MSS, issue a request to provide the following data during a user-initiated product request: Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, Scheduling Management Data, and Distribution Management Data.

Test Output:

Data Distribution collects and provides MSS with Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, Scheduling Management Data, and Distribution Management Data.

Success Criteria:

Data Distribution must provide Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, Scheduling Management Data, and Distribution Management Data to the MSS. The MSS must generate a report for each data type with the following information:

- Configuration Management Data Report must contain data regarding specific versions of individual software, data, and hardware items as they relate to each other, and information which describes changes to such configuration. This report must also contain information on Distribution Management data.
- Accounting Management Data Report must contain data used for accounting and billing purposes. This information includes: the request identifier, the date and time of the request,

the media cost, the CPU utilization, the personnel costs, the shipping and handling costs, the networking costs, and the archival costs (as applicable).

- Accountability Management Data Report must contain information about ECS services utilized by the user who initiated the Data Distribution session. (This is done for purposes of accountability and an audit trail.)
- Performance Management Data Report must track the performance of individual system components for resource utilization.
- Security Management Data Report must report, track and alert MSS of system activities (such as logon and logoff).
- Scheduling Management Data Report must provide information about schedules for startup, shutdown, restart, and reservations of SDPS resources.

L3 Requirements:

DADS0901#B

L4 Requirements:

S-DSS-00842, S-DSS-00843, S-DSS-00844, S-DSS-00845, S-DSS-00846, S-DSS-00847, S-DSS-00848

4.2.1.12.4 Test Case 4: Document Data Server MSS API Test (T209-62.02.04)

This test verifies the capability to collect and provide different types of data that will be provided to the MSS from the Document Data Server:

- Configuration Management data will be provided to the MSS using a MSS provided Configuration Management API
- Accounting Management data will be provided to the MSS using a MSS provided Accounting Management API
- Accountability Management data will be provided to the MSS using a MSS provided Accountability Management API
- Performance Management data will be provided to the MSS using a MSS provided Performance Management API
- Security Management data will be provided to the MSS using a MSS provided Security Management API
- Scheduling Management data will be provided to the MSS using a MSS provided Scheduling Management API

Test Configuration:

- Hardware: workstation
- Software: DDSRV

- Data: Data available for access and manipulation
- Tools: MSS Interface (real or simulated)

Test Input:

During a Document Data Server interface initiated from MSS, issue a request to provide the following data during a user-initiated product request: Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data.

Test Output:

The Document Data Server collects and provides MSS with Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data.

Success Criteria:

The Document Data Server must provided Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data to the MSS. The MSS must generate a report for each data type with the following information:

- Configuration Management Data Report must contain data regarding specific versions of individual software, data, and hardware items as they relate to each other, and information which describes changes to such configuration.
- Accounting Management Data Report must contain data used for accounting and billing purposes. This information includes: the request identifier, the date and time of the request, the media cost, the CPU utilization, the personnel costs, the shipping and handling costs, the networking costs, and the archival costs (as applicable).
- Accountability Management Data Report must contain information about ECS services utilized by the user who initiated the Document Data Server session. (This is done for purposes of accountability and an audit trail.)
- Performance Management Data Report must track the performance of individual system components for resource utilization.
- Security Management Date Report must report, track and alert MSS of system activities (such as logon and logoff).
- Scheduling Management Data Report must provide information about schedules for startup, shutdown, restart, and reservations of SDPS resources.

L3 Requirements:

DADS0901#B

L4 Requirements:

S-DSS-00851, S-DSS-00852, S-DSS-00853, S-DSS-00854, S-DSS-00855, S-DSS-00856

4.2.1.13 Data Distribution II Thread

The following thread verifies the capability to successfully accept and fulfill Distribution Requests. Distribution costs are generated, according to the type of request, the type and size of data, and the method of distribution. Distribution costs are recorded.

4.2.1.13.1 Test Case 1: Media Distribution Cost Test (T209-71.02.01)

This test verifies that shipping and handling costs associated with media distribution are correctly recorded.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Shipping and handling cost information table
- Tools:

Test Input:

A series of Media Distribution Requests are submitted for various sizes and types of data.

Test Output:

Files containing distribution costs.

Success Criteria:

All Distribution Requests submitted are accepted and processed. Shipping and handling costs are generated and successfully recorded.

L3 Requirements:

DADS0880#B, DADS0890#B, DADS0901#B

L4 Requirements:

S-DSS-30190

4.2.1.13.2 Test Case 2: Network Distribution Cost Test (T209-71.02.02)

This test verifies that data transmission costs associated with electronic distribution are correctly recorded. Along with the transmission cost, the User Identifier and the Request Identifier are recorded.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Network data transmission cost information table

- Tools:

Test Input:

A series of Electronic Distribution Requests are submitted for various sizes and types of data.

Test Output:

Files containing distribution costs.

Success Criteria:

All Distribution Requests submitted and processed successfully. Transmissions costs are generated and successfully recorded. User Identifier and Request Identifier information is correctly recorded with the cost information.

L3 Requirements:

DADS0880#B, DADS0890#B, DADS0901#B

L4 Requirements:

S-DSS-30200

4.2.1.13.3 Test Case 3: CPU Distribution Cost Test (T209-71.02.03)

This test verifies that CPU costs, resulting from intensive operations performed on data to be distributed, are correctly recorded. Intensive operations include data compression, data decompression and data reformatting operations.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: CPU cost information table
- Tools:

Test Input:

A series of Distribution Requests are submitted to include requests for data compression, data decompression and data reformatting.

Test Output:

Files containing CPU costs for intensive operations performed.

Success Criteria:

All Distribution Requests submitted are processed successfully. CPU costs are generated and successfully recorded.

L3 Requirements:

DADS0880#B, DADS0890#B

L4 Requirements:

S-DSS-30210

4.2.1.13.4 Test Case 4: Archive Storage Cost Test (T209-71.02.04)

This test verifies that archive storage costs, based on distribution size, are correctly recorded.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data: Archive storage cost information table
- Tools:

Test Input:

A series of Distribution Requests is submitted to include requests for data of various size.

Test Output:

Files containing archive storage costs.

Success Criteria:

All Distribution Requests submitted are processed successfully. Archive storage costs are generated and successfully recorded.

L3 Requirements:

DADS0880#B, DADS0890#B, DADS0901#B

L4 Requirements:

S-DSS-30220

4.2.1.13.5 Test Case 5: SMC and Data Distribution Interface Test(T209-71.02.05)

This test verifies the capability to alert SMC when electronic transmission problems are encountered.

Test Configuration:

- Hardware: workstation
- Software: DDIST
- Data:
- Tools: SMC interface (real or simulated)

Test Input:

When an electronic transmission problems occurs, the Data Server automatically alerts the SMC.

Test Output:

SMC is aware of the electronic transmission problems.

Success Criteria:

SMC is successfully notified of any electronic transmission problems that have occurred through the Data Server.

L3 Requirements:

DADS2675#B

L4 Requirements:

S-DSS-30296

4.2.1.14 Science Data Server Performance Thread

The following thread verifies the ability to utilize vendor supplied tools to analyze Data Server system performance.

4.2.1.14.1 Test Case 1: Data Server System CPU and Throughput Performance Test (T209-72.02.01)

This test verifies the capability to utilize vendor tools to analyze system CPU and Throughput performance of the science data server. This test also verifies that these tools can be used to tune throughput performance.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Several Data Server requests
- Tools: LoadRunner, Client Interface (real or simulated), vendor supplied tool

Test Input:

CPU and Throughput intensive operations are initialized. As the system is running, the vendor tools are used to monitor and capture CPU and Throughput performance information. The vendor tools are also used to evaluate how configurations can be altered to improve throughput.

After throughput reports are analyzed, implement suggested throughput changes.

Test Output:

Vendor reports are generated and printed.

Monitor throughput reports for any changes.

Success Criteria:

Vendor tool reports that reflect system performance are generated.

Vendor tool reports that reflect system throughput processing performance are generated.
Changing the system configuration based upon tool suggestions must improve throughput performance.

L3 Requirements:

DADS1340#B, IMS-0240#B, IMS-1440#B, IMS-1650#B, IMS-1660#B

L4 Requirements:

S-DSS-00770, S-DSS-00800, S-DSS-00810, S-DSS-01170

4.2.1.14.2 Test Case 2: Data Server Query Processing Performance Test (T209-72.02.02)

This test verifies the capability to utilize vendor tools to analyze query processing performance.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data:
- Tools:

Test Input:

A series of queries are submitted. As the system is running, the vendor tools are used to monitor and capture query performance information.

Test Output:

Vendor reports are generated and printed.

Success Criteria:

Vendor tool reports that reflect system query processing performance are generated.

L3 Requirements:

IMS-0240#B, IMS-1440#B

L4 Requirements:

S-DSS-00780

4.2.1.14.3 Test Case 3: Data Server System Storage Performance Test (T209-72.02.03)

This test verifies the capability to utilize vendor tools to analyze system storage performance.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data:
- Tools:

Test Input:

System storage intensive operations are initialized. As the system is running, the vendor tools are used to monitor and capture storage performance information.

Test Output:

Vendor reports are generated and printed.

Success Criteria:

Vendor tool reports that reflect system storage performance are generated.

L3 Requirements:

DADS1340#B, IMS-0240#B, IMS-1440#B

L4 Requirements:

S-DSS-00790

4.2.1.15 Accounting Thread

The following thread verifies the capability to successfully collect, estimate, record, and distribute accounting information. Utilization reports are generated and distributed electronically, on media, or in hard copy by the operations staff.

4.2.1.15.1 Test Case 1: Accounting Data Collection Test (T209-81.02.01)

This test verifies that the Storage Management software has the capability to collect information about the utilization of ECS services by individual users (specific accounts). The following information is collected:

- | | |
|----------------------|-------------------------------|
| • Request Identifier | • I/O Utilization |
| • Data of Request | • Personnel Costs |
| • Time of Request | • Shipping and Handling Costs |
| • Media Cost | • Networking Costs |

- CPU Utilization
- Archival Costs

This test also ensures that the Storage Management software provides the collected Accounting Management data to support Administrative Requests (i.e. status on the above listed data).

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Available data
- Tools:

Test Input:

A series of data access and service requests.

A series of Administrative Requests.

Test Output:

Files containing accounting data.

Accounting data are sent to requester.

Success Criteria:

Appropriate accounting data are collected for each data access and service request. For each Administrative Request submitted, a complete response is given.

L3 Requirements:

DADS0890#B, DADS0901#B

L4 Requirements:

S-DSS-21340, S-DSS-21350

4.2.1.15.2 Test Case 2: Client Session Accounting Test (T209-81.02.02)

This test verifies the User Accounting Information is associated with Client Sessions. When a Client Session is established, accounting information is recorded. Information includes source identification and accounting information based on utilization of resources resulting from services requested.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data:

- Tools: Client interface (real or simulated)

Test Input:

A Client Session is established and data services are requested.

Test Output:

Accounting information related to the Client Session is recorded.

Success Criteria:

Accurate and appropriate accounting information is recorded based on services requested.

L3 Requirements:

IMS-1660#B

L4 Requirements:

S-DSS-00375

4.2.1.15.3 Test Case 3: CSMS Pricing Information Test (T209-81.02.03)

This test verifies that Data Server software is capable of interfacing with CSMS software for the purpose of accepting pricing information. This information includes the following:

- disk utilization
- CPU utilization
- media utilization

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: CSMS pricing table
- Tools: CSMS Interface (real or simulated)

Test Input:

Pricing information is submitted to the Data Server from CSMS.

Test Output:

Files containing pricing information.

Success Criteria:

All pricing information is accepted by the Data Server.

L3 Requirements:

DADS0890#B

L4 Requirements:

S-DSS-00400

4.2.1.15.4 Test Case 4: Distribution Media Utilization Test (T209-81.02.04)

This test verifies that the Distribution software has the capability to report media utilization accounting information to the Data Server software.

Test Configuration:

- Hardware: workstation
- Software: SDSRV and DDIST
- Data:
- Tools:

Test Input:

Distribution media utilization information is submitted to the Data Server from Distribution software.

Test Output:

Files containing media utilization information.

Success Criteria:

All media utilization information is accepted by the Data Server.

L3 Requirements:

DADS0880#B, DADS0890#B, DADS0901#B

L4 Requirements:

S-DSS-00430, S-DSS-30230, S-DSS-30240

4.2.1.15.5 Test Case 5: Service Request Accounting Test (T209-81.02.05)

This test verifies that accounting information associated with a Service Request is recorded. The information to be collected and recorded includes the following:

- request identifier
- user identifier
- amount of connect time
- CPU utilization
- I/O utilization

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data:
- Tools: ECS Client Interface (real or simulated)

Test Input:

A series of Service Requests are submitted.

Test Output:

Records containing accounting information.

Success Criteria:

For each Service Request submitted, the appropriate accounting information is recorded.

L3 Requirements:

DADS0890#B, DADS1360#B, IMS-1650#B

L4 Requirements:

S-DSS-00330, S-DSS-00331, S-DSS-00332, S-DSS-00333, S-DSS-00340, S-DSS-350, S-DSS-00440

4.2.1.15.6 Test Case 6: Service Request Operations Cost Test (T209-81.02.06)

This test verifies that the Data Server software is capable of recording a fixed personnel cost for Service Requests requiring interaction with operations staff.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Personnel cost tables
- Tools:

Test Input:

A series of Service Requests are submitted, each requiring operations staff intervention.

Test Output:

Records containing accounting information.

Success Criteria:

For each Service Request submitted, the appropriate personnel cost accounting information is recorded.

L3 Requirements:

DADS0890#B

L4 Requirements:

S-DSS-00440

4.2.1.15.7 Test Case 7: SMC User Account (T209-81.02.07)

This test verifies that the Data Server software is capable of interfacing with SMC to provide User Accounting Information.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data:
- Tools: SMC Interface (real or simulated)

Test Input:

User Account Information is submitted to SMC by the Data Server.

Test Output:

Records containing accounting information.

Success Criteria:

The SMC successfully receives all User Account Information from the Data Server.

L3 Requirements:

IMS-1660#B, IMS-1665#B

L4 Requirements:

S-DSS-00376

4.2.1.15.8 Test Case 8: Utilization Report Distribution Test (T209-81.02.08)

This test verifies that utilization reports can be successfully distributed. Distribution can be done electronically, on media, or in hard copy. Reports are distributed on a periodic basis to a predefined list of report recipients.

Test Configuration:

- Hardware: workstation

- Software: SDSRV
- Data:
- Tools:

Test Input:

A predefined list of report recipients.

Test Output:

Reports are generated and distributed.

Success Criteria:

Complete and correct reports are successfully distributed to each recipient contained in the predefined list.

L3 Requirements:

IMS-1680#B, IMS-1690#B

L4 Requirements:

S-DSS-00377, S-DSS-00378

4.2.1.15.9 Test Case 9: Data Server and Storage Management Interface Test (T209-81.02.09)

This test verifies the capability of the Data Server to receive estimated and actual disk utilization from the STMGT CI.

Test Configuration:

- Hardware: workstation
- Software: SDSRV and STMGT
- Data:
- Tools:

Test Input:

A series of Service Requests are submitted. Estimated and actual disk utilization is recorded by the storage software and reported to the Data Server

Test Output:

Actual and estimated disk utilization is recorded.

Success Criteria:

The storage software sends actual and estimated disk utilization information to the Data Server. The Data Server records this information.

L3 Requirements:

DADS0890#B

L4 Requirements:

S-DSS-03960, S-DSS-04010

4.2.1.15.10 Test Case 10: Distribution Request Accounting Test (T209-81.02.10)

This test verifies the ability to record certain amounts of media to be utilized for a Distribution Request.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Data available for electronic and Media distribution
- Tools:

Test Input:

A series of media will be recorded and utilized.

Test Output:

Distribution Request are utilized and recorded.

Success Criteria:

Different amounts of media are recorded and utilized for the Distribution Request.

L3 Requirements:

DADS0890#B

L4 Requirements:

S-DSS-00420

4.2.1.15.11 Test Case 11: Service Request Operations Cost Test (T209-81.02.11)

This test verifies the capability to record, for accounting purposes, a fixed personnel cost for Service Requests requiring an interaction with the operations staff. This test shall also record a archival storage cost based on the number of bytes stored, to be used for accounting. Lastly, this test should provide actual cost information by the completion of a Service Request.

Test Configuration:

- Hardware: workstation
- Software: SDSRV

- Data: Service Request Cost tables
- Tools:

Test Input:

A series of Service Requests with costs are recorded for accounting purposes. Also, data are recorded by cost based on the amount of bytes the archival storage will store.

Test Output:

Records containing accounting and archival storage information.

Success Criteria:

By completion of all the Service Request, the Data Server should provide all the actual cost information.

L3 Requirements:

DADS0890#B

L4 Requirements:

S-DSS-00360, S-DSS-00370

4.2.1.15.12 Test Case 12: Storage System Cost Display Test (T209-81.02.12)

This test verifies the capability to provide the operations staff a mechanism to display and view the storage system cost by ECS elements.

Test Configuration:

- Hardware: workstation
- Software: STMGT
- Data: Storage System Cost tables
- Tools:

Test Input:

Operational commands are submitted for display of storage system cost by ECS element.

Test Output:

System costs are displayed

Success Criteria:

All operational commands are accepted and displays are readable.

L3 Requirements:

DADS1360#B, DADS1470#B

L4 Requirements:

S-DSS-21260

4.2.1.16 Data Server Mode Management Thread

The following thread verifies the capability that SDSRV, STMGT, DDIST, and DDSRV will operate in off-line and operational modes. This thread will verify that data integrity is maintained and that both modes can function simultaneously.

4.2.1.16.1 Test Case 1: Concurrent Execution of Operational and Test Modes for the Science Data Server (T209-82.02.01)

This test verifies that the user can execute Science Data Server functions simultaneously in off-line and operational mode (from the same workstation and from different workstations). This test will also verify that data integrity is maintained regardless of which mode the system is processing. The Science Data Server applications will be verified to ensure that the application can register within their mode-associated namespace in the Communication Subsystem (CSS) name server prior to application execution. A mode identifier will be incorporated for CSS name service lookups for the application to run in test mode. The Science Data Server will be verified to ensure that the mode identifier in the activity log records entries for cost and accounting data. This test will verify that the Science Data Server is capable of using simulated time values supplied by CSS when executing in non-production mode.

Test Configuration:

- Hardware - DCE cell, Workstation, X terminal, ACMHW HWCI (Science Data Server hardware), WKSHW (Working Storage HWCI).
- Software - SDSRV CI, MSS CI
- Data: Science data products (for archive and browse).
- Tools: Xrunner, HP OpenView, Client Interface (real or simulated), MSS Interface (real or simulated (to report mode status to)).

Test Input:

From a valid system user, simultaneously start Science Data Server processing in off-line and operational modes on the same workstation. Attempt to change the modes that have been initialized. In both modes, archive several science data products, and browse the Science data Server.

Repeat the test bringing up the test mode on a different workstation than the operational mode is utilizing. Utilize a simulated time value for this test mode.

Test Output:

Test mode environments must be brought up. Error messages must be received when the operator attempts to change the modes of the test and operational environments. HP OpenView must show both operational and test modes of the applications executing. Output must be

received from the Science Data Servers that are running in operational and test modes. Cost and accounting data must be logged.

Successful Criteria:

HP OpenView shows the successful initialization and concurrent execution of the test and production modes. Data integrity is maintained. The simulated time entered for test mode will be accepted and accurately utilized as the system time for that test mode environment. The mode (operational or test) will not be changeable during execution. An error message is generated to alert the operator when attempts are made to change initialized test and operational modes. The activity log will contain entries for cost and accounting data. Valid production cost and accounting logs will not be altered by the test modes. The test mode processes will interact exclusively with the appropriate test mode database(s). The operational mode processes will interact exclusively with the operational mode databases.

L3 Requirements:

EOSD0510#B, EOSD0630#B, EOSD0710#B, SDPS0140#B.

L4 Requirements:

S-DSS-04800, S-DSS-04810, S-DSS-04820, S-DSS-04830, S-DSS-04840, S-DSS-04850, S-DSS-04860, S-DSS-04870

4.2.1.16.2 Test Case 2: Concurrent Execution of Operational and Test Modes for the Document Data Server (T209-82.02.02)

This test verifies that the user can execute Document Data Server functions simultaneously in off-line and operational mode (from the same workstation and from different workstations). This test will also verify that data integrity is maintained regardless of which mode the system is processing. The Document Data Server applications will be verified to ensure that the application can register within their mode-associated namespace in the Communication Subsystem (CSS) name server prior to application execution. A mode identifier will be incorporated for CSS name service lookups for the application to run in test mode. The Document Data Server will be verified to ensure that the mode identifier in the activity log records entries for cost and accounting data. This test will verify that the Document Data Server is capable of using simulated time values supplied by CSS when executing in non-production mode. Finally, this test will verify that the Document Data Server has the capability to store and retrieve test plans and test procedures.

Test Configuration:

- Hardware - DCE cell, Workstation, X terminal, DDSHW HWCI (Document Data Server Hardware), WKSHW (Working Storage HWCI).
- Software - DDSRV CI, MSS CI
- Data: Document data products (for archive and browse), test plans and test procedures.
- Tools: Xrunner, HP OpenView, Client Interface (real or simulated), MSS Interface (real or simulated (to report mode status to)).

Test Input:

From a valid system user, simultaneously start Document Data Server processing in off-line and operational modes on the same workstation. Attempt to change the modes that have been initialized. In both modes, archive several Document data products, test plans and test procedures. Browse the Document data Server.

Repeat the test bringing up the test mode on a different workstation than the operational mode is utilizing. Utilize a simulated time value for this test mode.

Test Output:

Test mode environments must be brought up. Error message must be received when the operator attempts to change the modes of the test and operational environments. HP OpenView must show both operational and test modes of the application executing. Output is received from the Document Data Servers that are running in operational and test modes. Document data products, test plans, and test procedures must be stored and retrieved upon user request. Cost and accounting data must be logged.

Successful Criteria:

HP OpenView shows the successful initialization and concurrent execution of the test and production modes. Data integrity is maintained. Upon user request, Document data products, test plans, and test procedures are stored and retrieved from the corresponding operational mode areas. The simulated time entered for test mode will be accepted and accurately utilized as the system time for that test mode environment. The mode (operational or test) will not be changeable during execution. An error message is generated when changing the mode is attempted. The activity log will contain entries for cost and accounting data. Valid production cost and accounting logs will not be altered by the test modes. The test mode processes will interact exclusively with the appropriate test mode database(s). The operational mode processes will interact exclusively with the operational mode databases.

L3 Requirements:

EOSD0510#B, EOSD0630#B, EOSD0710#B, SDPS0140#B.

L4 Requirements:

S-DSS-10400, S-DSS-10410, S-DSS-10420, S-DSS-10430, S-DSS-10440, S-DSS-10450, S-DSS-10460, S-DSS-10465, S-DSS-10470

4.2.1.16.3 Test Case 3: Concurrent Execution of Operational and Test Modes for the Storage Management (T209-82.02.03)

This test verifies that the user can execute Storage Management functions simultaneously in off-line and operational mode (from the same workstation and from different workstations). This test will also verify that data integrity is maintained regardless of which mode the system is processing. The Storage Management applications will be verified to ensure that the application can register within their mode-associated namespace in the Communication Subsystem (CSS) name server prior to application execution. A mode identifier will be incorporated for CSS name

service lookups for the application to run in test mode. The Storage Management will be verified to ensure that the mode identifier in the activity log records entries for cost and accounting data. This test will verify that the Storage Management is capable of using simulated time values supplied by CSS when executing in non-production mode. Finally, this test will verify that the Storage Management has the capability to ensure that data written in different modes will not be mixed on the same tape.

Test Configuration:

- Hardware - DCE cell, Workstation, X terminal, DIPHW HWCI (Storage Management Hardware), WKSHW (Working Storage HWCI), tapes.
- Software - STMGT CI, MSS CI
- Data: Science data products (for archive, browse, and distribution). Document data products (for archive, browse, and distribution), test plans and test procedures.
- Tools: Xrunner, HP OpenView, Client Interface (real or simulated), MSS Interface (real or simulated (to report mode status to)).

Test Input:

From a valid system user, simultaneously start Storage Management processing in off-line and operational modes on the same workstation. Attempt to change the modes that have been initialized. In both modes, science data and document data must be available for processing requests. Browse and retrieve science data and document data from Storage Management.

Repeat the test bringing up the test mode on a different workstation than the operational mode is utilizing. Utilize a simulated time value for this test mode.

Test Output:

Test mode environments must be brought up. Error messages must be received when the operator attempts to change the mode of the test and operational environment. HP OpenView must show both operational and test modes of the applications executing. Output must be received from the Storage Management that are running in operational and test modes. Document data and science data must be retrieved upon user request. Cost and accounting data must be logged. Tapes must be created.

Successful Criteria:

HP OpenView shows the successful initialization and concurrent execution of the test and production modes. Data integrity is maintained. Upon user request, Document data and Science data retrieved from the corresponding operational mode areas, and the data is placed on tape. Data is distributed on the correct tape and no operational and off-line data are mixed on the tapes. The simulated time entered for test mode will be accepted and accurately utilized as the system time for that test mode environment. The mode (operational or test) will not be changeable during execution. An error message will be generated when attempts are made to change the initialized test and operational modes. The activity log will contain entries for cost and accounting data. Valid production cost and accounting logs will not be altered by the test modes. The test mode processes will interact exclusively with the appropriate test mode

database(s). The operational mode processes will interact exclusively with the operational mode databases.

L3 Requirements:

EOSD0510#B, EOSD0630#B, EOSD0710#B, SDPS0140#B.

L4 Requirements:

S-DSS-22000, S-DSS-22010, S-DSS-22020, S-DSS-22050, S-DSS-22060, S-DSS-22070, S-DSS-22080, S-DSS-22090, S-DSS-22100

4.2.1.16.4 Test Case 4: Concurrent Execution of Operational and Test Modes for the Document Distribution (T209-82.02.04)

This test verifies that the user can execute Document Distribution functions simultaneously in off-line and operational mode (from the same workstation and from different workstations). This test will also verify that data integrity is maintained regardless of which mode the system is processing. The Document Distribution applications will be verified to ensure that the application can register within their mode-associated namespace in the Communication Subsystem (CSS) name server prior to application execution. A mode identifier will be incorporated for CSS name service lookups for the application to run in test mode. The Document Distribution will be verified to ensure that the mode identifier in the activity log records entries for cost and accounting data. This test will verify that the Document Distribution is capable of using simulated time values supplied by CSS when executing in non-production mode. Finally, this test will verify that the Document Distribution has the capability to ensure that data written in different modes will not be mixed on the same distribution media.

Test Configuration:

- Hardware - DCE cell, Workstation, X terminal, DRPHW HWCI (Distribution Hardware), WKSHW (Working Storage HWCI), distribution media.
- Software - STMGT CI, MSS CI
- Data: Science data products (for archive, browse, and distribution). Document data products (for archive, browse, and distribution), test plans and test procedures.
- Tools: Xrunner, HP OpenView, Client Interface (real or simulated), MSS Interface (real or simulated (to report mode status to)).

Test Input:

From a valid system user, simultaneously start Document Distribution processing in off-line and operational modes on the same workstation. Attempt to change the modes that have been initialized. In both modes, science data and document data must be available for processing requests. Browse and retrieve science data and document.

Repeat the test bringing up the test mode on a different workstation than the operational mode is utilizing. Utilize a simulated time value for this test mode.

Test Output:

Test mode environments must be brought up. Error messages must be received when the operator attempts to change the mode of the test and operational environment. HP OpenView must show both operational and test modes of the application executing. Output must be received from the Document Distribution that are running in operational and test modes. Document data and science data must be retrieved upon user request. Cost and accounting data must be logged. User selected distribution media must be created.

Successful Criteria:

HP OpenView shows the successful initialization and concurrent execution of the test and production modes. Data integrity is maintained. Upon user request, Document data and Science data retrieved from the corresponding operational mode areas, and the data is placed on the user selected distribution media. Data is distributed on the correct tape and no operational and off-line data are mixed on the tapes. The simulated time entered for test mode will be accepted and accurately utilized as the system time for that test mode environment. The mode (operational or test) will not be changeable during execution. An error message is generated to alert the operator when attempts to change the initialized test and operational modes are made. The activity log will contain entries for cost and accounting data. Valid production cost and accounting logs will not be altered by the test modes. The test mode processes will interact exclusively with the appropriate test mode database(s). The operational mode processes will interact exclusively with the operational mode databases.

L3 Requirements:

EOSD0510#B, EOSD0630#B, EOSD0710#B, SDPS0140#B.

L4 Requirements:

S-DSS-31100, S-DSS-31110, S-DSS-31120, S-DSS-31150, S-DSS-31160, S-DSS-31170, S-DSS-31180, S-DSS-31190, S-DSS-31200

4.2.1.17 Subscription Request Thread

The following thread verifies the ability to submit and process subscription requests.

4.2.1.17.1 Test Case 1: Time Interval Subscription Request Test (T209-91.02.01)

This test verifies the capability to validate Subscription Request for time interval events. The time intervals will be limited to daily, weekly, or monthly.

Test Configuration:

- Hardware: workstation
- Software: DDSRV
- Data:
- Tools:

Test Input:

A series of time interval event subscription requests are submitted. At least one request is submitted for daily, weekly, and monthly intervals. Valid and invalid requests are submitted.

Test Output:

Valid Subscriptions are accepted and logged as valid. Invalid requests are recognized as invalid and are logged as invalid.

Success Criteria:

All requests are validated correctly.

L3 Requirements:

DADS0498#B IMS-0740#B, IMS-1080#B

L4 Requirements:

S-DSS-01474, S-DSS-10020

4.2.1.17.2 Test Case 2: Version Notification Test (T209-91.02.02)

This test verifies the capability to notify a user that a new version of the data has been archived. This test also verifies the capability to bundle notification of discrete events into a single notice to the subscriber.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: New data for archive.
- Tools:

Test Input:

Subscription Requests are submitted to notify the requester of new version software. A new version of software is submitted for ingest.

Test Output:

Notification of new version software is sent to the requester. Bundled notification of discrete events into a single notice to the subscriber is made.

Success Criteria:

All subscriptions submitted for new version software are accepted. Upon successful archiving of the software, requesters are notified and discrete events are bundled and the subscriber is notified.

L3 Requirements:

DADS0412#B, IMS-0740#B, IMS-0920#B, IMS-1080#B, SDPS0080#B

L4 Requirements:

S-DSS-01520, S-DSS-01540

4.2.1.17.3 Test Case 3: User Subscription Update Test (T209-91.02.03)

This test verifies the capability to accept Subscription Update Requests to update stored Subscriptions by changing the event or the action. This test also verifies the capability to validate Subscription Update Requests by determining valid Subscription Identifiers if the update is a valid replacement Subscription.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: An original Subscription
- Tools: Client Interface (real or simulated)

Test Input:

Subscription update requests are submitted by users to update subscriptions. Updates are for events and actions.

Test Output:

Subscriptions are viewed to verify that updates reflect new events and actions.

Success Criteria:

Upon updating the subscriptions, events and actions are imposed which reflect the updated subscriptions. The subscription respond appropriately.

L3 Requirements:

DADS0500#B, IMS-0740#B, IMS-0920#B, IMS-1080#B

L4 Requirements:

S-DSS-01560, S-DSS-01590, S-DSS-01620

4.2.1.17.4 Test Case 4: Operations Subscription Update Test (T209-91.02.04)

This test verifies the capability to update stored Subscriptions, by changing the event or the action, by operational command. This test also verifies the capability to report on new events for the timer based subscriptions and verifies that old events are not repeated.

Test Configuration:

- Hardware: workstation
- Software: SDSRV

- Data: An Original Subscription
- Tools: A Client Interface (real or simulated)

Test Input:

Operational commands are submitted to update subscriptions. Timer based subscriptions are updated. Updates are for events and actions.

Test Output:

Subscriptions are viewed to verify that updates reflect new events and actions. They are also viewed to verify that old events are not repeated.

Success Criteria:

Upon updating the subscriptions and timer based subscriptions, events and actions are imposed which reflect the updated subscriptions. The subscription respond appropriately. Old events are not repeated.

L3 Requirements:

DADS0500#B, IMS-0740#B, IMS-0920#B, IMS-1080#B

L4 Requirements:

S-DSS-01580, S-DSS-01700

4.2.2 Ingest Subsystem

4.2.2.1 Electronic Ingest Thread (

Testing will demonstrate the ability to ingest from a variety of media types. The tester will ingest from a variety of media types such as CD-ROM, 4mm tape, 8mm tape, 6250 and bpi magnetic tape. Once the data is ingested, testers will verify its existence through direct access and by viewing the data server inventory.

The following tests verify the capability to successfully ingest data from external data sources by media transfer.

4.2.2.1.1 Test Case 1: GSFC NMC FTP Test (T244-10.02.01)

This test verifies that the Ingest software is capable of ingesting data which will be provided by NMC via ESN into the GSFC DAAC using a file transfer protocol.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: NMC data, associated metadata and DAN
- Tools: NMC Interface (real or simulated). Corresponding ICDs.

Test Input:

A series of Ingest Data requests are submitted by NMC.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed in the staging disk.

L3 Requirements:

DADS0145#B

L4 Requirements:

S-INS-00645

4.2.2.1.2 Test Case 2: GSFC and JPL SCF FTP Test (T244-10.02.02)

This test verifies that the Ingest software is capable of ingesting Data which will be provided by SCF via ESN into the GSFC and JPL DAAC using a file transfer protocol.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: SCF data which is Science Data Production Software Delivery Packages including: computer code, data (coefficients and SCF ancillary data, control files, test data expected results, and PGE activation rules), science data product quality assurance office information, and information about science data processing and preprocessing (documents).
- Tools: SCF Interface (real or simulated). ICDs for the interface.

Test Input:

A series of Ingest Data requests are submitted by SCF.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

DADS0190#B, PGS-0640#B

L4 Requirements:

4.2.2.1.3 Test Case 3: ASF APS, PVS, PPS, FAIF, and RGPS FTP Test (T244-10.02.03)

This test verifies that the Ingest software is capable of ingesting data at the ASF DAAC which will be provided by the following using a file transfer protocol:

- Acquisition Planning System (APS)
- Product Verification System (PVS)
- Production Planning System (PPS)
- Flight Agency Interface (FAIF)
- RADARSAT Geophysical Processing System (RGPS)

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: APS, PVS, PPS, FAIF, and RGPS data
- Tools: APS, PVS, PPS, FAIF, and RGPS Interfaces (real or simulated). ICDs for interfaces.

Test Input:

A series of Ingest Data requests are submitted by the APS, PVS, PPS, FAIF, and RGPS (simulators) to the ASF DAAC.

Test Output:

Data from APS, PVS, PPS, FAIF, and RGPS are accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

DADS0200#B

L4 Requirements:

S-INS-00841, S-INS-00843, S-INS-00845, S-INS-00847, S-INS-00849

4.2.2.1.4 Test Case 4: LaRC SAGE III Ingest Test (T244-10.02.04)

This test verifies that the Ingest software is capable of ingesting Data which will be provided by SAGE III and placed into the LaRC DAAC by TBD means.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: SAGE III data and metadata.
- Tools: SAGE III Interface (real and simulated). ICD for interface.

Test Input:

A series of Ingest Data requests are submitted by SAGE III.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

DADS0200#B

L4 Requirements:

S-INS-00850

4.2.2.1.5 Test Case 5: ACRIM Ingest Test (T244-10.02.05)

This test verifies that the Ingest software is capable of ingesting Data which will be provided by ACRIM and placed into the LaRC DAAC by TBD means.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: ACRIM data and metadata.
- Tools: ACRIM Interface (real or simulated). ICD for interface.

Test Input:

A series of Ingest Data requests are submitted by ACRIM.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

DADS0200#B

L4 Requirements:

S-INS-00852

4.2.2.1.6 Test Case 6: ASF RGS Ingest Test (T244-10.02.06)

This test verifies that the Ingest software is capable of ingesting Data provided by the ASF Receiving Ground Station (RGS) using a file transfer protocol for a network interface.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: ASF RGS data and metadata.
- Tools: ASF RGS Interface (real or simulated). ICD for interface.

Test Input:

A series of Ingest Data requests are submitted by RGS.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

DADS0200#B

L4 Requirements:

S-INS-00854

4.2.2.1.7 Test Case 7: ASF SPS Ingest Test (T244-10.02.07)

This test verifies that the Ingest software is capable of ingesting Data provided by the ASF SAR Processing System (SPS) using a file transfer protocol for a network interface.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: ASF SPS data and metadata
- Tools: ASF SPS Interface (real or simulated). ICD for interface.

Test Input:

A series of Ingest Data requests are submitted by SPS.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

DADS0200#B

L4 Requirements:

S-INS-00856

4.2.2.1.8 Test Case 8: DAO FTP Test (T244-10.02.08)

This test verifies that the Ingest software is capable of ingesting Data provided by the DAO using a file transfer protocol for a network interface.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: DAO data and metadata.
- Tools: DAO Interface (real or simulated). ICD for interface.

Test Input:

A series of Ingest Data requests are submitted by DAO.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

DADS0145#B, DADS0260#B, SDPS0020#B

L4 Requirements:

S-INS-00650

4.2.2.1.9 Test Case 9: FDF FTP Test (T244-10.02.09)

This test verifies that the Ingest software is capable of ingesting Data provided by the FDF using a file transfer protocol for a network interface.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: FDF data from the Flight Dynamics Facility and metadata.
- Tools: FDF Interface (real or simulated). ICD for interface.

Test Input:

A series of Ingest Data requests are submitted by FDF.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

DADS0175#B, SDPS0020#B

L4 Requirements:

S-INS-00730

4.2.2.1.10 Test Case 10: ADEOS II/SeaWinds Test (T244-10.02.10)

This test verifies that the Ingest software at the JPL DAAC is capable of ingesting data provided by ADEOS II/SeaWinds using a file transfer protocol for a network interface.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: ADEOS II/ SeaWinds Data and Metadata.
- Tools: ADEOS II Interface (real or simulated). ICD for interface.

Test Input:

A series of Ingest Data requests are submitted for ADEOS II/SeaWinds.

Test Output:

Data accepted and placed on staging disk.

Success Criteria:

For every Ingest Request the data is successfully accepted and placed on the staging disk.

L3 Requirements:

SDPS0020#B

L4 Requirements:

S-INS-00840

4.2.2.2 Document Scanning/Digitizing Thread

The following tests verify the capability to successfully ingest documents by means of scanning/digitizing.

4.2.2.2.1 Test Case 1: Valid Document Scan Test (T244-30.02.01)

This test verifies that ingest software is capable of interactively accepting requests for document scanning/digitizing. The request is authenticated to determine if it is from an authorized source. The request is verified to determine if it is from a valid external source. Operational status is returned to screen. The data volume of the scanned/digitized file is automatically determined.

Test Configuration:

- Hardware: workstation, scanner
- Software: INGST
- Data: Document for scanning.
- Tools:

Test Input:

A series of scanning requests are submitted. All requests submitted are valid.

Test Output:

Scanned documents are ingested. Status is returned to screen. Data volumes are automatically determined.

Success Criteria:

For each scan request submitted, the document volume is automatically determined, and the document is successfully ingested. Status is displayed, indicating successful ingest.

L3 Requirements:

DADS0070#B, EOSD2400#B

L4 Requirements:

S-INS-02000, S-INS-02010, S-INS-02020, S-INS-02030, S-INS-02050, S-INS-60900

4.2.2.2.2 Test Case 2: Invalid Document Scan Test (T244-30.02.02)

This test verifies that the ingest software is capable of recognizing invalid scanning requests and responding in an appropriate manner. Requests are verified for the following:

- hard copy scanning failure
- missing required metadata
- metadata parameters out of range
- invalid data type identifier
- data archive failure
- unauthorized hard copy media provider
- unauthorized operations staff

Test Configuration:

- Hardware: workstation, scanner.
- Software: INGST
- Data: Document for scanning.
- Tools:

Test Input:

A series of scanning requests are submitted. All requests submitted are invalid. At least one invalid request is submitted to include: hard copy scanning failure, missing required metadata, metadata parameters out of range, invalid data type identifier, data archive failure, unauthorized hard copy media provider, and unauthorized operations staff.

Test Output:

Status messages are returned to screen.

Success Criteria:

For each scan request submitted the request is recognized as invalid and appropriate status is returned to screen. All errors are recorded in an error log.

L3 Requirements:

DADS0070

L4 Requirements:

S-INS-02040#B, S-INS-02050#B, S-INS-60900#B

4.2.2.3 Ingest Data Format Thread

Testing will demonstrate the ability to convert and reformat ingested data and manipulate metadata, which is not in an acceptable ECS data format, before insertion into the data server. Reformatting includes byte swapping and other functions to resolve platform incompatibilities. Conversion involves changing data to adhere to HDF or other standard ECS formats. Metadata manipulation includes metadata extraction.

The following tests verify the ability to convert ingested data and metadata into acceptable formats to be inserted by the Data Server and the Document Data Server.

4.2.2.3.1 Test Case 1: Ingest Science Data Conversion Test (T244-40.02.01)

This test verifies the acceptance of data by ingest and the conversion of data into an acceptable data server format. The implementation of conversion services depends on the initial format of the data type and the targeted archive format. File formats to be converted include: TBD.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: TBD Science Data
- Tools: TBD Science Data Interface (real or simulated)

Test Input:

A series of ingest requests are submitted. The data needs to be converted for acceptance by the Data Server.

Output

Converted data.

Success Criteria:

All ingest requests submitted are accepted and the data is converted. Data is successfully inserted into the Data Server.

L3 Requirements:

DADS0320#B, DADS0770#B, DADS0780#B, DADS0800#B

L4 Requirements:

S-INS-00401

4.2.2.3.2 Test Case 2: Ingest Document Conversion Test (T244-40.02.02)

This test verifies the acceptance of data by ingest and the conversion of data into an acceptable data server format. The implementation of conversion services depends on the initial format of the data type and the targeted archive format. Document formats to be converted include: TBD.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: Document data requiring conversion.
- Tools: Interface for Document Ingest (real or simulated).

Test Input:

A series of ingest requests are submitted. The data needs to be converted for acceptance by the Document Data Server.

Test Output:

Converted data.

Success Criteria:

All ingest requests submitted are accepted and the data is converted. Data is successfully inserted into the Document Data Server.

L3 Requirements:

DADS0320#B, DADS0770#B, DADS0780#B, DADS0800#B

L4 Requirements:

S-INS-00401

4.2.2.3.3 Test Case 3: Ingest Science Metadata Extraction Test (T244-40.02.03)

This test verifies that the Ingest software is capable of extracting metadata into a form that is accepted by the Science Data Server. The necessity for metadata extraction depends on each data type. This is verified for the following data categories:

- Metadata parameters stored in a data-set-specific format.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: TBD Science Metadata
- Tools: TBD Science Metadata Interface (real or simulated). ICD for TBD Science Metadata.

Test Input:

A series of ingest data request of the type that requires extraction.

Test Output:

Metadata extracted and place in appropriate files.

Success Criteria:

For every request submitted metadata is correctly extracted.

L3 Requirements:

DADS0320#B

L4 Requirements:

S-INS-03103

4.2.2.3.4 Test Case 4: Ingest Document Metadata Extraction Test (T244-40.02.04)

This test verifies that the Ingest software is capable of extracting metadata into a form that is accepted by the Document Data Server. The necessity for metadata extraction depends on each data type. This is verified for the following data categories:

- Metadata parameters stored in a data-set-specific format.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: TBD Document Metadata
- Tools: TBD Document Metadata Interface (real or simulated). TBD Document ICDs.

Test Input:

A series of ingest data request of the type that requires extraction.

Test Output:

Metadata extracted and place in appropriate files.

Success Criteria:

For every request submitted metadata is correctly extracted.

L3 Requirements:

DADS0320#B

L4 Requirements:

S-INS-03103

4.2.2.3.5 Test Case 5: Ingest Document Data Reformatting Test (T244-40.02.05)

This test verifies that the Ingest software is capable of reformatting data into a form that is accepted by the Document Data Server.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: Document Data for Reformatting
- Tools: Ingest Interface for Document (real or simulated)

Test Input:

A series of ingest data requests of the type that requires data reformatting.

Test Output:

Reformatted data.

Success Criteria:

For every request submitted data is correctly reformatted.

L3 Requirements:

DADS0320#B, DADS0770#B

L4 Requirements:

S-INS-00402

4.2.2.3.6 Test Case 6: Ingest Science Data Reformatting Test (T244-40.02.06)

This test verifies that the Ingest software is capable of reformatting data into a form that is accepted by the Science Data Server.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: TBD Science data for Reformatting
- Tools: TBD Science Data Interface (real or simulated)

Test Input:

A series of ingest data requests of the type that requires data reformatting.

Test Output:

Reformatted data.

Success Criteria:

For every request submitted data is correctly reformatted.

L3 Requirements:

DADS0320#B, DADS0770#B

L4 Requirements:

S-INS-00402

4.2.2.4 Performance and Sizing Thread

Performance testing is conducted for analysis of the ingest system, running under normal and maximum operating environments. Tools will be used to collect and display performance statistics, and generate hard copy performance reports. Performance testing includes: throughput, rate, storage capacity, and interface testing. After test data is collected, analysis is done to determine if the system is operating according to performance requirements.

The following tests verify Ingest System throughput performance. Throughput is measured under normal operating conditions. Performance data is collected and analyzed to determine throughput expansion capabilities. Throughput expansion analysis does not include architectural or design modifications.

The following tests verify the capability to successfully ingest data according to required rates. The ingested data rates range from a nominal daily rate to three times the nominal rate. Some rates are characterized by hours such as a nominal 8-hour rate.

The following tests verify the capability to successfully support electronic data ingest sizing requirements or external data sources.

4.2.2.4.1 Test Case 1: GSFC, LaRC, EDC Nominal Rate Ingest Test (T244-50.02.01)

This test verifies that the following DAAC's will be capable of ingesting data at the nominal daily rate (as stated in Appendix E of the current version of 304-CD-005):

- GSFC DAAC has the capability of ingesting data from the EDOS, DAO and NMC
- LaRC DAAC has the capability of ingesting data from the EDOS and DAO
- EDC DAAC has the capability of ingesting data from Landsat 7 IAS and Landsat 7 IGS

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: DAO data. Landsat7 IAS DANs, calibration Coefficient Information and Metadata Update. Landsat7 IGS DANs, IGS Inventory Metadata, and IGS Browse data.
- Tools: DAO, Landsat7 IAS, and Landsat7 IGS Interfaces (real or simulated). DAO and Landsat7 ICD.

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Test Output:

Rate performance data is collected.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

L3 Requirements:

DADS2780#B, DADS0145#B, EDOS-4.2.2.1#B, EDOS-4.2.3.1#B, EDOS-4.5#B, EDOS-B.2.1#B, EDOS-C.2.1#B

L4 Requirements:

S-INS-61000, S-INS-01140, S-INS-61020, S-INS-61040, S-INS-61050, S-INS-61080

4.2.2.4.2 Test Case 2: GSFC and LaRC Maximum Rate Ingest Test (T244-50.02.02)

This test verifies that the following DAAC's will be capable of ingesting data at a maximum daily rate that is three times the nominal rate (as stated in Appendix E of the current version of 304-CD-005):

- GSFC DAAC has the capability of ingesting data from EDOS
- LaRC DAAC has the capability of ingesting data from EDOS

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: TBD EDOS data
- Tools: EDOS Interface (real or simulated). EDOS ICD.

Test Input:

A series of Ingest requests are submitted continuously over timed intervals. The number of ingest requests is increased, until the system can no longer accept requests. Requests are for data of various size and type. The system is monitored during Ingest processing.

Test Output:

Rate performance data is collected.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data can be ingested at a rate that is three times the acceptable nominal rate.

L3 Requirements:

DADS2778#B

L4 Requirements:

S-INS-61010, S-INS-61025

4.2.2.4.3 Test Case 3: EDC Landsat7 LPS Nominal Rate Test (T244-50.02.03)

This test verifies that the EDC DAAC has the capability of ingesting data from the Landsat7 Processing System (LPS) at the nominal rate.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: LPS Data Availability Notice (DAN), Level OR data, Level OR Inventory Data, Level OR Browse Data,
- Tools: LPS Interface (real or simulated). Landsat7 ICD.

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Test Output:

Rate performance data is collected. An acknowledgment is generated upon completion.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate. An acknowledgment must be generated upon completing the Ingest.

L3 Requirements:

EOSD1085#B

L4 Requirements:

S-INS-61030

4.2.2.4.4 Test Case 4: LaRC NESDIS Nominal Rate Test (T244-50.02.04)

This test verifies that the LaRC DAAC has the capability of ingesting data from the NESDIS at the nominal rate (as specified in Appendix E, Tables E-3a and E-3b, of the current version of 304-CD-005).

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: NESDIS data, NESDIS DANs, and associated Metadata.
- Tools: NESDIS Interface (real or simulated). NESDIS ICD.

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Test Output:

Rate performance data is collected.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

L3 Requirements:

DADS0145#B

L4 Requirements:

S-INS-01035

4.2.2.4.5 Test Case 5: JPL RADAR-ALT Nominal Rate and Sizing Test (T244-50.02.05)

This test verifies that the JPL DAAC has the capability of ingesting data from the RADAR-ALT at the nominal rate. This test also verifies that the JPL DAAC is sized to store and maintain RADAR-ALT data for one year and temporarily.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: RADAR-ALT Data, DANs, and associated Metadata.
- Tools: RADAR-ALT Interface (real or simulated). ICD.

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing. UNIX commands are submitted to provide the available size of the storage area for RADAR-ALT data.

Test Output:

Rate performance data is collected. UNIX commands generate the status of the available sizing.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate based upon Appendix E of the current version of 304-CD-005. The output from the UNIX commands are used to validate sizing constraints as specified in Appendix E (Sections E.1 - E.3 and Tables E-1 - E-3) of the current version of 304-CD-005.

L3 Requirements:

DADS0200#B, DADS0487#B, DADS2778#B, DADS2780#B

L4 Requirements:

S-INS-60748, S-INS-60711, S-INS-61110

4.2.2.4.6 Test Case 6: ADEOS II Nominal Rate and Sizing Test (T244-50.02.06)

This test verifies that the JPL DAAC has the capability of ingesting data from the ADEOS II at the nominal rate. This test also verifies that the JPL DAAC is sized to store and maintain ADEOS II data for one year and temporarily.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: ADEOS SeaWind data, DANs and associate Metadata.
- Tools: ADEOS II Interface (real or simulated) and ICD.

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing. UNIX commands are submitted to verify the available size for the storage area for ADEOS II data.

Test Output:

Rate performance data is collected. UNIX commands generate the status of available sizing.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate (based upon Appendix E of the current version of 304-CD-005). The output from the UNIX commands ensure the sizing constraints as specified in Appendix E (Sections E.1 - E.3 and Table E-1 - E-3) of the current version of 304-CD-005.

L3 Requirements:

DADS0487#B, DADS2778#B, DADS2780#B

L4 Requirements:

S-INS-60746, S-INS-60772, S-INS-61115

4.2.2.4.7 Test Case 7: LaRC SAGE III Nominal Rate Test (T244-50.02.07)

This test verifies that the following DAAC's will be capable of ingesting data at the nominal daily rate (as stated in Appendix E of the current version of 304-CD-005):

- LaRC DAAC has the capability of ingesting data from SAGE III and ACRIM
- ASF DAAC has the capability of ingesting data from ASF RGS and ASF SPS

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: SAGE III data, DANs, and associated metadata.
- Tools: SAGE III Interface (real or simulated) and ICD.

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Test Output:

Rate performance data is collected.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

L3 Requirements:

DADS0200#B

L4 Requirements:

S-INS-61140, S-INS-61150, S-INS-61160, S-INS-61170

4.2.2.4.8 Test Case 8: GSFC EDOS Hardware Sizing Test (T244-50.02.08)

This test verifies that the GSFC DAAC will be sized to support EDOS electronic data ingest at TBD bytes/second. This test also verifies that the GSFC DAAC will be sized to store and maintain EDOS data for 1 year (Appendix E of the 304-CD-005 contains these specifications).

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: TBD EDOS Data

- Tools: TBD EDOS Interface (real or simulated) and ICD

Test Input:

Data ingest at TBD bytes/second. Ingest interface resources are monitored.

A TBD UNIX command is entered to display the amount of storage size available for the GSFC DAAC.

Test Output:

Data interface and storage performance data is collected.

UNIX will display the actual size available to store and maintain EDOS data at the GSFC DAAC.

Success Criteria:

Interface data is successfully collected and recorded. The data is analyzed to determine if hardware resources adequately support GSFC EDOS interface requirements. The system is capable of housing 1 year of EDOS data. (Appendix E of the 304-CD-005 documents the size required for storing and maintaining EDOS data.)

L3 Requirements:

DADS0487#B, DADS2778#B, DADS2780#B

L4 Requirements:

S-INS-60736, S-INS-60751

4.2.2.4.9 Test Case 9: LaRC EDOS Hardware Sizing Test (T244-50.02.09)

This test verifies that the LaRC DAAC will be sized to support EDOS electronic data ingest at TBD bytes/second.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: TBD EDOS data
- Tools: TBD EDOS Interface (real or simulated) and ICD.

Test Input:

Data ingest at TBD bytes/second. Ingest interface resources are monitored.

A TBD UNIX command is entered to display the amount of storage size available for the LaRC DAAC.

Test Output:

Data interface and storage performance data is collected.

UNIX will display the actual size available to store and maintain EDOS data at the GSFC DAAC.

Success Criteria:

Interface data is successfully collected and recorded. The data is analyzed to determine if hardware resources adequately support LaRC EDOS interface requirements. (Appendix E of the 304-CD-005 documents the size required for storing and maintaining EDOS data.)

L3 Requirements:

DADS0487#B, DADS2778#B, DADS2780#B

L4 Requirements:

S-INS-60741, S-INS-60756

4.2.2.4.10 Test Case 10: EDC Landsat7 Processing System Hardware Sizing Test (T244-50.02.10)

This test verifies that the EDC DAAC will be sized to support TBD bytes/second electronic data ingest interface with Landsat7.

Test Configuration:

- Hardware: workstation
-

Software: INGST

- Data: Landsat7 LPS data
- Tools: LPS Interface (real or simulated) and ICD.

Test Input:

Data ingest at TBD bytes/second. Ingest interface resources are monitored.

Test Output:

Data interface and storage performance data is collected.

Success Criteria:

Interface data is successfully collected and recorded. The data is analyzed to determine if hardware resources adequately support EDC Landsat7 interface requirements.

L3 Requirements:

EOSD1085#B

L4 Requirements:

S-INS-60733

4.2.2.4.11 Test Case 11: EDC Landsat 7 Hardware Sizing Test (T244-50.02.11)

This test verifies that the EDC DAAC will be sized to support Landsat electronic data ingest interface at TBD bytes/second.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: Landsat7 data
- Tools: Landsat7 Interface (real or simulated) and ICD.

Test Input:

Data ingest at TBD bytes/second. Ingest interface resources are monitored.

Test Output:

Data interface and storage performance data is collected.

Success Criteria:

Interface data is successfully collected and recorded. The data is analyzed to determine if hardware resources adequately support EDC Landsat interface requirements.

L3 Requirements:

EOSD1085#B

L4 Requirements:

S-INS-60770

4.2.2.4.12 Test Case 12: EDC, NSIDC, ASF, JPL, GSFC, LaRC, and MSFC Ingest Throughput Test (T244-50.02.12)

This test verifies that the following DAAC's, EDC, NSIDC, ASF, JPL, GSFC, LaRC, and MSFC have the capability to expand in throughput 200 percent without architecture or design change.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: TBD Data for the following DAACs: EDC, NSIDC, ASF, JPL, GSFC, LaRC, and MSFC
- Tools: TBD EDC, NSIDC, ASF, JPL, GSFC, LaRC, and MSFC DAAC Interfaces (real or simulated) and corresponding ICDs.

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Test Output:

Performance data is collected.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine possible expansion in throughput.

L3 Requirements:

DADS3090#B

L4 Requirements:

S-INS-00900, S-INS-00910, S-INS-00920, S-INS-00925, S-INS-00927, S-INS-00929, S-INS-00930

4.2.2.5 Request Resumption Thread

The following tests verify the capability to suspend and resume ingest request status. Requests submitted for suspension and resumption of ingest activities is accomplished via operational commands or using an application interface.

4.2.2.5.1 Test Case 1: Operational Ingest Resumption Request Test (T244-60.02.01)

This test verifies the ability to submit operational commands to resume a suspended Ingest request. The request is validated to confirm it is submitted by an authorized source with a valid Request Identifier. Monitoring of the ingest process verifies that only the ingest requests declared resumed, are resumed.

This test also verifies that an Error Log is created to track unauthorized requests and invalid ingest Request Identifiers.

Test Configuration:

o Hardware: workstation

- Software: INGST
- Data: Suspended Ingest Request.
- Tools: Operator GUI Interface to Ingest

Test Input:

A series of Ingest Requests are submitted. Operational commands are submitted to suspend the request. Operational commands are submitted to resume the request. Some Resumption Requests are for all Ingest Requests. Some Resumption Requests only identify certain Ingest

Requests for Resumption. Commands are submitted by valid and invalid sources and for valid and invalid Request Identifiers.

Test Output:

The system is monitored to determine request state. Requests not resumed are not processed. An Error Log is maintained for Unauthorized Requesters and invalid ingest Request Identifiers.

Success Criteria:

All Ingest Requests are successfully received. Only those Ingest Requests which are included in the Suspension Request are suspended. All Resumption Requests from valid sources result in processing of the resumed request. Resumption Requests from invalid sources and invalid Request Identifiers are not accepted. An Error Log is created to track invalid Resumption activities.

L3 Requirements:

DADS0700#B, DADS0901#B, DADS2210#B, DADS2220#B, EOSD2400#B

L4 Requirements:

S-INS-00357, S-INS-00394

4.2.2.5.2 Test Case 2: Application Ingest Resumption Request Test (T244-60.02.02)

This test verifies the ability for an application to submit an Ingest Resumption Request. The request is validated to confirm it is submitted by an authorized source. Monitoring of the ingest process verifies that only the ingest requests declared resumed, are resumed. The test will also verify that Error Logs document unauthorized requesters and invalid ingest request identifiers.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data: Suspended Ingest Requests
- Tools: Operator GUI Interface to Ingest.

Test Input:

A series of Ingest Requests are submitted. Requests are submitted to suspend the Ingest request. Operational commands are submitted to resume the request. Some Resumption Requests are for all Ingest Requests, some Resumption Requests only identify certain Ingest Requests for Resumption. Commands are submitted by valid and invalid sources (unauthorized requester and an invalid ingest identifier).

Test Output:

The system is monitored to determine request state. Requests not resumed are not processed. Status on unauthorized requesters and invalid ingest identifiers are reported to the Error Log.

Success Criteria:

All Ingest Requests are successfully received. Only those Ingest Requests which are included in the Suspension Request are suspended. All Resumption Requests from valid sources result in processing of the resumed request. Resumption Requests from invalid sources are not accepted. The error log correctly documents requests made from unauthorized requesters and invalid request identifiers.

L3 Requirements:

DADS0100#B, DADS0700#B, DADS0901#B, DADS1980#B, DADS2000#B, DADS2220#B, DADS3140#B, EOSD2400#B

L4 Requirements:

S-INS-00367, S-INS-00370, S-INS-00398

4.2.2.6 Data Preprocessing and Request Manager Build (B244.02)

Testing will demonstrate the ability to electronically ingest instrument and spacecraft data and associated metadata, ancillary data, data objects, and L0-L4 data. This scenario will ensure that data can be ingested via a file transfer protocol (ftp) and by document scanning. This test case scenario will also ensure the ability to pass this data along to the Science Data Server and the Document Data Server.

A resume ingest request scenario will be executed to demonstrate Ingest subsystem's ability to resume a suspended Ingest Request. As a method for regression testing, this test will be performed in off-line/test mode and in real-time operational mode. This scenario will also verify that the data are properly archived and stored in the data server.

Finally, this testing will demonstrate that the Ingest system is able to convert ingested science data and document data into the proper format required for storage and archive in the Science Data Server and Document Data Server. Once the conversion has completed, the data must be stored in the corresponding data server. Likewise, reformatting will be tested for science data and document data which requires reformatting. Upon completion of the reformatting, the test case scenario will demonstrate that science and document data are properly stored in the Science and Document Data Servers.

4.2.2.6.1 Test Case 1: Electronic and Digitizing Ingest and Archive Scenario Test (B244.02.01)

This test verifies that the Ingest software is capable of ingesting and storing data which will be provided by the following sources (using a file transfer protocol): National Meteorological Center NOAA (NMC), Science Computing Facility (SCF), Acquisition Planning System (APS) at ASF, Product Planning System (PPS) at ASF, Flight Agency Interface (FAIF) at ASF, RADARSAT Geophysical Processing System (RGPS) at ASF, Receiving Ground Station (RGS) at ASF, SAR Processing System (SPS) at ASF, Meteor, FOO, Data Assimilation Office (DAO),

Flight Dynamics Facility (FDF) at GSFC, and ADEOS II. This test will also verify that documents can be scanned and ingested. This test scenario ensures that ingest can read the data into the system, validate the data, and send the validated data on to the archive subsystem. In the archive, the data are stored for long-term storage in the Science and Document Data Servers. This test will verify that only authorized users are permitted to ingest science data and documents into the data servers.

Test Configuration:

- Hardware: workstation
- Software: INGST, SDSRV, DDSRV, STMGT
- Data: The following DANs, data, and associated Metadata are needed for this test case:

| <u>Mission/Data Origin</u> | <u>Data needed</u> | <u>DAAC destination</u> |
|--|--|-------------------------|
| National Meteorological Center (NOAA) (NMC) Data | TBD | GSFC |
| Science Computing Facility | Science Data Production S/W Delivery Packages including: computer code, data (coefficients and SCF ancillary data, control files, test data expected results, and PGE activation rules), science data product quality assurance info., and info. about science data processing and reprocessing (documents). | GSFC |
| Acquisition Planning System (APS) at ASF | TBD | ASF |
| Product Verification System (PVS) at ASF | TBD | ASF |
| Product Planning System (PPS) at ASF | TBD | ASF |
| Flight Agency Interface (FAIF) at ASF | TBD | ASF |
| RADARSAT Geophysical Processing System (RGPS) at ASF | TBD | ASF |
| Receiving Ground Station (RGS) at ASF | TBD | ASF |
| SAR Processing System (SPS) at ASF | TBD | ASF |
| Meteor | Sage III | LaRC |
| FOO | ACRIM | LaRC |
| Data Assimilation Office (DAO) | First look products, Reanalysis Products, Final Analysis Products (metadata, correlative data, documents and new derived data sets). | TBD DAAC |

| | | |
|----------|---|-----|
| FDF | AM-1 orbit and Attitude data and GSFC? associated metadata | |
| ADEOS II | SeaWinds | JPL |
| TBD | Documents for scanning | TBD |

The corresponding Interface Control Documents (ICDs) must be available to ensure file transfer protocol and data content.

- Tools: Interfaces are needed for the above specified data sources (real or simulated). Interface Control Documents (ICDs) for the above stated data types will be needed to ensure that the data are transmitted and received properly. ICDs will also be used to verify the transmission method of the data. (Note: It is assumed that the SDSRV, DDSRV and STMGT will be available to complete this scenario.)

Test Input:

A series of valid Ingest Data Requests are submitted by the following data sources: National Meteorological Center NOAA (NMC), Science Computing Facility (SCF), Acquisition Planning System (APS) at ASF, Product Planning System (PPS) at ASF, Flight Agency Interface (FAIF) at ASF, RADARSAT Geophysical Processing System (RGPS) at ASF, Receiving Ground Station (RGS) at ASF, SAR Processing System (SPS) at ASF, Meteor, FOO, Data Assimilation Office (DAO), Flight Dynamics Facility (FDF) at GSFC, and ADEOS II. Document scanning ingests are initiated by the ingest operator.

Invalid (unauthorized user requests) scanning and ftp requests are made.

Test Output:

Valid data are accepted and placed on staging disk. The science data are prepared and sent to the Science Data Server for storage. The documents scanned and digitized are prepared and sent to the Document Data Server for storage. Updates are made to the storage advertisement to allow the users to know that the new data are available on the disk.

Invalid scanning and ftp requests are logged in an error file and the transactions requested are not performed.

Success Criteria:

For every valid Ingest Request, the data are successfully accepted and placed on the staging disk. The data are successfully packaged and sent to the science and document data server storage, and the users are alerted that new data are available.

Unauthorized scanning and ftp Ingest Requests are not processed and the data are not added to the archive. The invalid request is logged to a file.

L3 Requirements:

DADS0070#B, DADS0120#B, DADS0130#B, DADS0140#B, DADS0145#B, DADS0170#B, DADS0175#B, DADS0180#B, DADS0190#B, DADS0200#B, DADS0250#B, DADS0260#B, DADS0440#B, EOSD2400#B, EOSD1750#B, PGS-0640#B, SDPS0020#B

L4 Requirements:

S-DSS-03002, S-DSS-03004, S-DSS-03006, S-DSS-03050, S-DSS-03060, S-DSS- 3100, S-DSS-03190, S-DSS-03200, S-DSS-03460, S-DSS-03470, S-DSS-03361, S-DSS-03362, S-DSS-03363, S-DSS-03364, S-DSS-03741, S-DSS-03742, S-DSS-03743, S-DSS-03744, S-INS-00645, S-INS-00650, S-INS-00682, S-INS-00684, S-INS-00730, S-INS-00840, S-INS-00841, S-INS-00843, S-INS-00845, S-INS-00847, S-INS-00849, S-INS-00850, S-INS-00852, S-INS-00854, S-INS-00856, S-INS-02000, S-INS-02010, S-INS-02020, S-INS-02030, S-INS-02040, S-INS-02050, S-INS-60900

4.2.2.6.2 Test Case 2: Resumption and Archive Scenario Test (B244.02.02)

This test verifies that the Ingest software is capable of resuming a suspended or all suspended Ingest Requests via an authorized user in Off-line/Test Mode and in real-time operational mode. This test will initiate processing more than one ingest request in off-line/test mode and in operational mode. Following a valid Suspension Requests, a valid Resumption Request will be initiated to verify that the authorized operator is able to resume a suspended ingest request. Resumption Requests initiated will also be submitted by an unauthorized user to check for error handling. Invalid Ingest Request Identifiers will also be validated for error handling.

Test Configuration:

- Hardware: workstation
- Software: INGST, SDSRV, STMGT
- Data: The Following DANs, data, and associated metadata are needed for this test scenario:

| <u>Mission/Data Origin</u> | <u>Data needed</u> | <u>DAAC destination</u> |
|--|--|-------------------------|
| National Meteorological Center (NOAA) (NMC) Data | TBD | GSFC |
| Science Computing Facility | Science Data Production S/W Delivery Packages including: computer code, data (coefficients and SCF ancillary data, control files, test data expected results, and PGE activation rules), science data product quality assurance info., and info. about science data processing and reprocessing (documents). | GSFC |
| Acquisition Planning System (APS) at ASF | TBD | ASF |
| Product Verification System (PVS) at ASF | TBD | ASF |
| Product Planning System (PPS) at ASF | TBD | ASF |
| Flight Agency Interface (FAIF) at ASF | TBD | ASF |

| | | |
|--|--|----------|
| RADARSAT Geophysical Processing System (RGPS) at ASF | TBD | ASF |
| Receiving Ground Station (RGS) at ASF | TBD | ASF |
| SAR Processing System (SPS) at ASF | TBD | ASF |
| Meteor | Sage III | LaRC |
| FOO | ACRIM | LaRC |
| Data Assimilation Office (DAO) | First look products, Reanalysis Products, Final Analysis Products (metadata, correlative data, documents and new derived data sets). | TBD DAAC |
| FDF | AM-1 orbit and Attitude data and associated metadata | GSFC? |
| ADEOS II | SeaWinds | JPL |

Associated ICDs as needed for the above data types.

- Tools: Interfaces for above listed data sources (real or simulated). ICDs are needed for the above listed data sources.

Test Input:

In Off-line/test mode, a series of data ingest requests are initiated (via ftp). After the ingest processing is initiated, send a valid Suspend Request to suspend one or all Ingest Requests. Once the Ingest Request(s) are marked for suspension, send a valid Ingest Resumption Request.

Send an invalid Resumption Request to resume one or all Ingest Requests (invalid request consists of an unauthorized requester and an invalid Ingest Request Identifier).

Repeat the above steps for a real-time operational mode of the ingest resumption.

Test Output:

Regardless of what mode the system is in (Off-line/test mode or operational/real-time mode), the following must occur:

An error log is created of all unauthorized resumption requesters and Invalid Ingest Request Identifiers.

Error-free Resumption Requests resume the ingest processing for the specified Ingest Request (based upon the valid Ingest Request Identifier). The Ingest Request that has been resumed continues processing until the data are archived and stored on the data server. All remaining suspended ingest request will not be processed and the data from the ingest suspended request will not be archived and stored on the Science Data Server.

Success Criteria:

All Ingest Requests are successfully received. Only those Ingest Requests which are included in the Resumption Request are resumed. All suspended and not resumed Ingest Requests are not

processed. Following the Resumed Ingest Request, the reactivated Ingest Requests are properly archived and stored data in the data server. An error log tracks all invalid Resumption Requests.

L3 Requirements:

DADS0120#B, DADS0130#B, DADS0140#B, DADS0145#B, DADS0170#B, DADS0175#B, DADS0180#B, DADS0190#B, DADS0200#B, DADS0260#B, DADS0440#B, DADS0700#B, DADS0901#B, DADS2210#B, EOSD1750#B, EOSD2400#B

L4 Requirements:
S-DSS-03002, S-DSS-03004, S-DSS-03006, S-DSS-03050, S-DSS-03060, S-DSS- 3100, S-DSS-03190, S-DSS-03200, S-DSS-03460, S-DSS-03470, S-DSS-03361, S-DSS-03362, S-DSS-03363, S-DSS-03364, S-DSS-03741, S-DSS-03742, S-DSS-03743, S-DSS-03744, S-INS-00357, S-INS-00394

4.2.2.6.3 Test Case 3: Ingest, Convert, Archive, and Search Data Scenario Test (B244.02.03)

This test verifies that the Ingest software is capable of ingesting data and converting the data. This process will be verified prior to transmitting and archiving the converted data onto the Science Data Server and the Document Data Server. This test scenario will also verify that the archived converted data can be searched and retrieved from the Science Data Server and the Document Data Server. Unauthorized ingest, conversion, archive and search requests will be verified in this test.

Test Configuration:

- Hardware: workstation
- Software: INGST, SDSRV, STMGT, DDSRV, DDIST
- Data: Ingest requests from TBD data sources and documents with WORD, Interleaf and WordPerfect Format which require conversion. Associated metadata will be required for Ingest and Storage. Associated ICDs are needed for the above TBD data types.
- Tools: Interfaces for above listed data sources (real or simulated). ICDs are needed for the above listed data sources. Client Interface (real or simulated) will be needed to perform a search and retrieval of archived converted data.

Test Input:

Initiate an Ingest Request for science data and document data that requires conversion. Once conversion occurs and data are archived and stored in the data server, initiate a client search for the converted data. Also initiate a client retrieval of the converted data.

At each step, an unauthorized user will request the ingest, conversion, archive, storage, search and retrieval requests.

Test Output:

An error log is created of all unauthorized requests. The requests made by unauthorized users must not be processed.

Data conversions must occur for the science and document data. Converted data will be transmitted to the Science Data Server and the Document Data Server (respectively) and archived and stored. Their associated metadata will also be archived.

The client Search Request for the converted science and document data must locate the specified data for the client who initiated the searched. The client Retrieval Request must return to the client the requested converted science and document data.

Success Criteria:

All Ingest Requests are successfully received. All ingested data must be converted. All converted Ingest Request data are properly archived and stored in the Science Data Server and Document Data Server (along with the corresponding metadata). The converted ingest science and document data are searched and retrieved from the archive. An error log tracks all unauthorized requests.

L3 Requirements:

ASTER-0130#B, ASTER-0600#B, ASTER-0700#B, DADS0120#B, DADS0130#B, DADS0140#B, DADS0145#B, DADS0170#B, DADS0190#B, DADS0320#B, DADS0770#B, DADS0780#B, DADS0800#B, DADS2307#B, DADS2330#B, DADS2340#B, DADS2345#B, DADS2360#B, DADS2370#B, DADS2380#B, DADS2390#B, EDOS-4.4.2.1#B, EDOS-4.4.2.2#B, EDOS-4.4.2.6#B, EDOS-4.4.2.7#B, EDOS-4.4.2.8#B, EDOS-4.4.3.1#B, EDOS-4.4.3.2#B, EDOS-4.2.2#B, EDOS-4.2.3#B, EDOS-4.2.7#B, EDOS-4.2.8#B, EDOS-4.4#B, EDOS-4.5#B, EDOS-4.6#B, EOSD2400#B, IMS-0420#B, IMS-0480#B, IMS-0490#B

L4 Requirements:

S-DSS-03002, S-DSS-04038, S-DSS-10055, S-DSS-10202, S-DSS-10206, S-DSS-10208, S-DSS-20750, S-INS-00401, S-INS-03103

4.2.2.6.4 Test Case 4: Ingest, Reformat, Archive, and Search Data Scenario Test (B244.02.04)

This test verifies that the Ingest software is capable of ingesting data and reformatting the data. This process will be verified prior to transmitting and archiving the reformatted data onto the Science Data Server and the Document Data Server. This test scenario will also verify that the archived reformatted science and document data can be searched and retrieved from the Science Data Server and the Document Data Server. Unauthorized ingest, reformat, archive and search requests will be verified in this test.

Test Configuration:

- Hardware: workstation
- Software: INGST, SDSRV, STMGT, DDSRV, DDIST
- Data: Ingest requests from TBD data sources and documents with WORD, Interleaf and WordPerfect Format which require reformat. Associated metadata will be required for Ingest and Storage. Associated ICDs are needed for the above TBD data types.

- Tools: Interfaces for above listed data sources (real or simulated). ICDs are needed for the above listed data sources. Client Interface (real or simulated) will be needed to perform a search and retrieval of archived converted data.

Test Input:

Initiate an Ingest Request for science data and document data that requires reformatting. Once reformatting occurs and data are archived and stored in the data server, initiate a client search for the reformatted data. Also initiate a client retrieval of the reformatted data.

At each step, an unauthorized user will request the ingest, reformat, archive, storage, search and retrieval requests.

Test Output:

An error log is created of all unauthorized requests. The requests made by unauthorized users must not be processed.

Data reformatting must occur for the science and document data. Reformatted data will be transmitted to the Science Data Server and the Document Data Server (respectively) and archived and stored. Their associated metadata will also be archived.

The client Search Request for the reformatted science and document data must locate the specified data for the client who initiated the searched. The client Retrieval Request must return to the client the requested reformatted science and document data.

Success Criteria:

All Ingest Requests are successfully received. All ingested data must be reformatted. All reformatted Ingest Request data are properly archived and stored in the Science Data Server and Document Data Server (along with the corresponding metadata). The reformatted ingest science and document data are searched and retrieved from the archive. An error log tracks all unauthorized requests.

L3 Requirements:

ASTER-0130#B, ASTER-0600#B, ASTER-0700#B, DADS0120#B, DADS0130#B, DADS0140#B, DADS0145#B, DADS0170#B, DADS0190#B, DADS0320#B, DADS0770#B, DADS0780#B, DADS0800#B, DADS2307#B, DADS2330#B, DADS2340#B, DADS2345#B, DADS2360#B, DADS2370#B, DADS2380#B, DADS2390#B, EDOS-4.4.2.1#B, EDOS-4.4.2.2#B, EDOS-4.4.2.6#B, EDOS-4.4.2.7#B, EDOS-4.4.2.8#B, EDOS-4.4.3.1#B, EDOS-4.4.3.2#B, EDOS-4.2.2#B, EDOS-4.2.3#B, EDOS-4.2.7#B, EDOS-4.2.8#B, EDOS-4.4#B, EDOS-4.5#B, EDOS-4.6#B, EOSD2400#B, IMS-0420#B, IMS-0480#B, IMS-0490#B

L4 Requirements:

S-DSS-03002, S-DSS-04038, S-DSS-10055, S-DSS-10202, S-DSS-10206, S-DSS-10208, S-DSS-20750, S-INS-00402, S-INS-03103

4.2.3 Client Subsystem

4.2.3.1 Enhanced Sessions Handling

Sessions will be initiated and terminated. Profiles will be created for each session and status information about the sessions will be obtainable by the user. Connection to existing user sessions and rebuilding of a session will also be verified. The ability to enable, disable, obtain and review session logs will be verified. The use of simulated user sessions for training will be verified.

4.2.3.1.1 Test Case 1: Logs (T222-10.02.01)

This test verifies that user sessions can be logged. A session can be enabled and disabled. When enabled, all activity of a logged session will be noted in the log. Logs can be obtained and reviewed. Logs can be saved to a file. Session logs can also be used to rebuild a session.

Test Configuration:

- Hardware: Workstations
- Software: Workbench, Logger/Reviewer Tool, Desktop Manager
- Data: N/A
- Tools: Xrunner, DMS driver for sending data requests and receiving notifications and responses

Test Input:

Session logging is enabled. Start, manipulate and quit several sessions. View the session log. Disable the session logging. Create further session activity. View the session log. Copy the session log to a file. View the file. Rebuild a session using data from the session logs.

Test Output:

Interactions of sessions are displayed in the session log. The session log is copied to a file and redisplayed as a flat file. Session is rebuilt.

Success Criteria:

While session is being logged, interactions displayed in the session log match those performed in the session. Interactions that occurred after logging is disabled are not present in the session log. The session log is successfully copied to a file and preserved. A session is successfully rebuilt using session logs.

L3 Requirements:

IMS-1300#B

L4 Requirements:

S-CLS-11050, S-CLS-12670, S-CLS-12680, S-CLS-12690

4.2.3.1.2 Test Case 2: User Sessions (T222-10.02.02)

This test verifies user session capabilities. A user session supports interactions between the user and all of ECS and allows the user to interact with ECS as a single entity. User sessions manage resources and result sets that are directly or indirectly controlled by the user interface client. User sessions will be initiated and terminated, status information will be obtained, and the user will connect to existing user sessions. A session profile is created for user sessions. The session profile is able to contain any of the parameters which are in the user profile and which may apply as defaults to ECS service requests.

Test Configuration:

- Hardware: Workstations
- Software: Workbench, Logger/Reviewer Tool, Desktop Manager
- Data: Various types of data request responses
- Tools: Xrunner, DMS driver for receiving data requests and sending notifications and request responses

Test Input:

Submit several service requests and initiate user sessions. Suspend and terminate a number of the sessions. Submit service requests to active sessions. Request status information on user sessions. Create session profiles for each user session. Create valid and invalid session profiles. Several profiles should contain parameters which are in the user profile.

Test Output:

Concurrent service requests between the user interface client and one or more servers is issued. Sessions are initiated. A number of sessions are suspended and terminated. Accept and execute service requests. Display status information on user sessions. Valid session profiles are accepted. Invalid session profiles are rejected. Responses are displayed.

Success Criteria:

Service requests are executed successfully. A user session is successfully initiated. User sessions are successfully terminated. Active sessions are not affected by terminated sessions. Status Information on user sessions correctly states the current status of the sessions. User successfully connects to an existing user session with a mouse click. Valid session profiles are accepted. Invalid session profiles are rejected. The appropriate responses are displayed. Parameters which are in the user profile and which may apply as defaults to ECS service requests can be contained in the session profile.

L3 Requirements:

IMS-0050#B, IMS-0100#B, IMS-0140#B, IMS-0180#B, IMS-1300#B

L4 Requirements:

S-CLS-00790, S-CLS-12540, S-CLS-12570, S-CLS-12580, S-CLS-12700, S-CLS-13160, S-CLS-13170, S-CLS-13200, S-CLS-13210, S-CLS-13460, S-CLS-13470

4.2.3.1.3 Test Case 3: User Session/Service Request (T222-10.02.03)

This test verifies that user can rebuild a user session context and issue service requests. A user session supports interaction between the user and all of ECS and allows the user to interact with ECS as a single entity.

Test Configuration:

- Hardware: Workstations
- Software: Workbench, Desktop Manager
- Data: Session management responses, service responses with data
- Tools: Xrunner, DMS driver for receiving data requests and sending notifications and responses

Test Input:

Establish a user session. Submit several service requests. Rebuild a user session.

Test Output:

A user session is established. Concurrent service requests between the user interface client and one or more servers is issued. A user session is rebuilt.

Success Criteria:

The user session context is successfully rebuilt. Service requests are executed successfully within the context of a user session.

L3 Requirements:

IMS-0120#B, IMS-0100#B, IMS-0140#B

L4 Requirements:

S-CLS-12720, S-CLS-13220

4.2.3.1.4 Test Case 4: Training Option (T222-10.02.04)

This test verifies that a training option is provided. The training option consists of simulated user sessions for identifying, searching for and obtaining data and services.

Test Configuration:

- Hardware: Workstations
- Software: Workbench, Desktop Manager
- Data: Training data
- Tools: XRunner

Test Input:

Select the training option. Establish a user session. Submit several service requests.

Test Output:

The training option is accepted. A simulated user session is established. Service requests are issued.

Success Criteria:

The training option is successfully selected and simulated user sessions are established. Service requests are executed successfully.

L3 Requirements:

IMS-0100#B, IMS-1505#B

L4 Requirements:

S-CLS-10630, S-CLS-10640

4.2.3.2 Enhanced Data Visualization Tools Thread

This thread will verify the use of enhanced data visualization tools. Such capabilities include: modification and importation of color palettes, animation of data images, coordinate entries and displays, and modification and displaying of pseudo color images. The tester will demonstrate the use of a color table editor with sophisticated color table manipulations. Summarizing statistics will be correctly calculated from multi-dimensional arrays and user-selected columns.

4.2.3.2.1 Test Case 1: Color Palettes (T222-20.02.01)

This test verifies that a user can import and modify color palettes. The ECS desktop and workbench are used to import and modify color palettes. The minimum and maximum values of the color tables for visualization of data products will also be changed.

Test Configuration:

- Hardware: Workstations
- Software: Desktop Manager, Visualization Tool
- Data: HDF data files suitable for image manipulation
- Tools: XRunner

Test Input:

Log onto the ECS system, display pseudo color image, import color palette files, modify the color of the image. Change the minimum and maximum values of the color tables.

Test Output:

Display of a pseudo color image.

Success Criteria:

Color palettes are successfully imported and modified.

L3 Requirements:

IMS-1550#B

L4 Requirements:

S-CLS-10510, S-CLS-10520, S-CLS-13670, S-CLS-13660

4.2.3.2.2 Test Case 2: Modify Data (T222-20.02.02)

This test verifies that a user can modify pseudo color mapping by changing the data minimum and maximum values and adaptive equalization. Coloring is selected to distinguish data points.

Test Configuration:

- Hardware: Workstations
- Software: Desktop Manager, Visualization Tool
- Data: HDF data files suitable for image manipulation
- Tools: XRunner

Test Input:

Display pseudo color images. Change data minimum and maximum values. Modify colors.

Test Output:

Display of a pseudo color image. Data minimum and maximum values are accepted. pseudo color image is redisplayed. Coloring is modified.

Success Criteria:

The pseudo color mapping is modified correctly by changing the data minimum and maximum values and by adaptive equalization. Data points are distinguishable.

L3 Requirements:

IMS-1550#B

L4 Requirements:

S-CLS-10530, S-CLS-10540

4.2.3.2.3 Test Case 3: Display Profiles and Arrays (T222-20.02.03)

This test verifies that a user can display horizontal and vertical profiles through pseudo color images. The user can also display multi-dimensional arrays of data as a series of two-dimensional pseudo color images. Visualizations of multi-dimensional arrays needed for QA, validation, algorithm development, calibration functions, parameter verification and anomaly detection will be displayed.

Test Configuration:

- Hardware: Workstations
- Software: Desktop Manager, Visualization Tool
- Data: HDF data files suitable for image manipulation
- Tools: XRunner

Test Input:

Display pseudo color images. Display horizontal and vertical profiles through pseudo color images. Display Multi-dimensional data arrays as two-dimensional pseudo color images. Display visualizations of multi-dimensional arrays needed for QA, validation, algorithm development, calibration functions, parameter verification and anomaly detection.

Test Output:

Display of a pseudo color image. Display of horizontal and vertical profiles. Display of two-dimensional pseudo color images.

Success Criteria:

Horizontal and vertical profiles are correctly displayed through pseudo color images. Multi-dimensional data arrays are correctly displayed as two-dimensional pseudo color images. Visualizations of multidimensional arrays needed for QA, validation, algorithm development, calibration functions, parameter verification and anomaly detection are correctly displayed.

L3 Requirements:

IMS-1540#B

L4 Requirements:

S-CLS-10490, S-CLS-10500

4.2.3.2.4 Test Case 4: Overlays (T222-20.02.04)

This test verifies that overlays shall be continuous over the entire display area, regardless of any gaps in the science data, for data following HDF-EOS geolocation conventions. Lat/long lists for the production of built-in vector overlays are available as part of the application.

Test Configuration:

- Hardware: Workstations
- Software: Desktop Manager, Visualization Tool
- Data: Data following HDF-EOS geolocation conventions, map overlays
- Tools: XRunner

Test Input:

Using data following HDF-EOS geolocation conventions, locate data that has gaps in the science data. Use the data as overlays for display. Display images. Open applications to produce a built-in vector overlay. Display lat/long lists associated with this application.

Test Output:

Display images are displayed. Application is opened. Lat/long lists are displayed. Overlay images are displayed.

Success Criteria:

Overlays are continuous over the entire displayed area, regardless of any gaps in the science data. Lat/long lists are successfully displayed for the production of built-in vector overlays.

L3 Requirements:

IMS-0510#B, IMS-0580#B, IMS-1530#B

L4 Requirements:

S-CLS-13700, S-CLS-10460, S-CLS-10300

4.2.3.2.5 Test Case 5: Animations (T222-20.02.05)

This test verifies that a user has the option to display a series of visualizations as an animation. Data products can be visualized in continuous forward, single step forward, single step backward, and oscillating animation. During oscillation, animation is continuous forward, then continuous backward, alternating throughout the loop until a user-directed termination.

Test Configuration:

- Hardware: Workstations
- Software: Desktop Manager, Visualization Tool
- Data: HDF data files suitable for image animation
- Tools: XRunner

Test Input:

Create a series of visualizations. Select to display in continuous forward animation. Select to display in single step forward animation. Select to display in single step backward animation. Select to display in oscillating animation.

Test Output:

A series of specified visualizations is displayed.

Success Criteria:

A series of visualizations is successfully displayed in continuous forward, single step forward, single step backward, and oscillating animation.

L3 Requirements:

IMS-1530#B

L4 Requirements:

S-CLS-13620, S-CLS-13630, S-CLS-13640, S-CLS-13650

4.2.3.2.6 Test Case 6: Displays (T222-20.02.06)

This test verifies that a user can display ECS supported visualization data. Data will be displayed as a series of line plots. A legend describing the display of a data product is displayed in each window a data product is displayed. Multiple images will be displayed at one time. Climatology information will also be displayed.

Test Configuration:

- Hardware: Workstations
- Software: Desktop Manager, Visualization Tool
- Data: HDF data files suitable plotting, HDF data files with climatology information
- Tools: XRunner

Test Input:

Using ESC supported visualization data, display the data as a series of line plots. Display multiple data products in multiple windows. View the legend for each display. View climatology information.

Test Output:

A series of line plots is displayed. Multiple images are displayed. Legends are displayed. Climatology information is displayed.

Success Criteria:

ECS supported visualization data is successfully displayed as series of line plots. Legends are displayed in each window a data product is displayed. Climatology information is successfully displayed. The legends and climatology information successfully describe the display of the data products. Multiple images are successfully displayed at one time.

L3 Requirements:

IMS-1540#B, IMS-1520#B, IMS-0230#B

L4 Requirements:

S-CLS-10480, S-CLS-13980, S-CLS-15920, S-CLS-10882

4.2.3.2.7 Test Case 7: Display and positioning (T222-20.02.07)

This test verifies the displaying and positioning of the cursor. When the cursor is inside an EOS grid array, lat/long coordinates of the cursor are displayed. The user has the option to display latitude/longitude pairs as symbols, displayed in their proper geolocation on all visualizations

produced. The user can position the cursor by entering a latitude/longitude value, an instrument scan line, or an image X,Y coordinate. Geographic reference aids will be displayed.

Test Configuration:

- Hardware: Workstations
- Software: Desktop Manager, Visualization Tool
- Data: HDF data files containing data suitable for a map display using coordinates
- Tools: XRunner

Test Input:

Display the visualizations. Display EOS grid arrays. Move the cursor to various points on the arrays. Select the option to display lat/long pairs as symbols. Enter a lat/long value for the cursor position. Enter instrument scan line for the cursor position. Enter an X,Y coordinate for the cursor position. Display geographic reference aids. Enter “out of range” lat/long coordinates.

Test Output:

Visualizations are displayed. EOS grid arrays are displayed. Lat/long coordinates are displayed. Lat/long pairs are displayed. Cursor is moved and displayed. Geographic reference aids are displayed. A message is displayed if coordinates are out of range.

Success Criteria:

Correct lat/long coordinates of the cursor are displayed when the cursor is inside an EOS grid array. Lat/long pairs are displayed as symbols in their proper geolocation on all visualizations produced. The cursor is positioned correctly by entering a lat/long value, an instrument scan line, or an X,Y coordinate. Geographic reference aids are properly displayed containing valid information. Error messages are generated for improper inputs.

L3 Requirements:

IMS-1590#B, IMS-0510#B, IMS-0580#B, IMS-1530#B

L4 Requirements:

S-CLS-10600, S-CLS-10310, S-CLS-10320, S-CLS-10610, S-CLS-10615, S-CLS-10884

4.2.3.2.8 Test Case 8: Arrays and Columns Calculations (T222-20.02.08)

This test verifies that the user can calculate summarizing statistics. Statistics of multi-dimensional arrays of EOS data and of user-selected columns from tables of values of EOS data will be calculated.

Test Configuration:

- Hardware: Workstations
- Software: Desktop Manager, Visualization Tool

- Data: HDF data files suitable for statistical manipulation
- Tools: XRunner

Test Input:

Using multi-dimensional arrays of EOS data, calculate summarizing statistics. Using tables of values of EOS data, select columns from the tables. Calculate summarizing statistics.

Test Output:

Multi-dimensional arrays are displayed. Statistics are calculated and displayed. Tables of values are displayed. Statistics are calculated and displayed.

Success Criteria:

Summarizing statistics are calculated correctly for multi-dimensional arrays and user-selected columns from tables of values of EOS data.

L3 Requirements:

IMS-1570#B

L4 Requirements:

S-CLS-10550, S-CLS-10560

4.2.3.2.9 Test Case 9: Browse in Vector Graphic Format (T222-20.02.09)

This test verifies that the user can display browse information in vector graphic format.

Test Configuration:

- Hardware: Workstations
- Software: Desktop Manager, Visualization Tool
- Data: HDF data files suitable for display in a vector graphic format
- Tools: XRunner

Test Input:

Display browse information in vector graphic format.

Test Output:

Multi-dimensional arrays are displayed. Statistics are calculated and displayed. Tables of values are displayed. Statistics are calculated and displayed.

Success Criteria:

Browse information is successfully displayed in vector graphic format.

L3 Requirements:

IMS-0690#B, IMS-1530#B

L4 Requirements:

S-CLS-10470

4.2.3.3 Distributed Client Thread II

This thread will demonstrate verification of the logon procedures, processing of multiple concurrent service requests. Testing will include the cancellation, suspension and restoration of service requests. Status requests will be tested for the progress of a service request. The capability to accept notifications of service request and session events is tested. The capability to specify the interaction level is tested. User access to USENET news groups will be tested. The API's ability to support extension development for DAACs will also be tested.

4.2.3.3.1 Test Case 1: Authorizations (T222-30.02.01)

This test verifies that the system checks for valid user authorization. The workbench will send logon authorization requests to CSMS. The workbench should allow user system access based on the user validation status returned from CSMS. The workbench restricts user access to data and services if the user lacks sufficient privileges.

Test Configuration:

- Hardware: Workstations
- Software: Workbench, Desktop Manager
- Data: User profile and account information.
- Tools: Xrunner, SMC driver

Test Input:

Valid and invalid user logon requests are entered from multiple users. Each request includes, a valid/invalid userid with its corresponding valid/invalid password. The user requests access to data and services.

Test Output:

Information returned from the client not allowing the user access based on the validation information. Access to data and services is granted or denied. Messages are displayed to the user.

Success Criteria:

For an invalid logon, information is received stating an unsuccessful logon and the user will not have system access. For a valid logon, information is received stating a successful logon and the user has system access. A user can only access data and services based on user privileges. If the user lacks sufficient privileges, access to certain data and services are denied and appropriate messages are returned to the user.

L3 Requirements:

DADS0770#B, DADS0780#B, DADS0800#B, EOSD2400#B, IMS-0040#B, IMS-0130#B

L4 Requirements:

S-CLS-13380, S-CLS-13390, S-CLS-13400, S-CLS-15760

4.2.3.3.2 Test Case 2: Valid and Invalid Request (T222-30.02.02)

This test verifies user's ability to register as an ECS user. The client provides an interface by which a new user can complete an account application which is forwarded to the SMC. Error messages are generated during the registration process as a result of entering invalid registration information. A registration process is required to use the full capabilities of ECS. Unregistered users' access to ECS is limited.

Test Configuration:

- Hardware: Workstations
- Software: User Registration Tool, Workbench, Desktop Manager
- Data: User registration form
- Tools: XRunner

Test Input:

The user will complete and submit registration forms. These forms will contain valid and invalid information. The user will request data and services based on their user priorities and authorized user services.

Test Output:

The SMC will supply the priority information and authorized user services. Access to data and services is granted for valid requests. An error message is generated when invalid information is entered into the registration form.

Success Criteria:

The registration process is completed for valid requests and SMC provides the necessary access attributes to use ECS. The user is able to access the ECS system. Improper Inputs are detected and the user is prompted for the correct entry. Invalid forms cannot be submitted for processing.

L3 Requirements:

IMS-0060#B

L4 Requirements:

S-CLS-13090

4.2.3.3.3 Test Case 3: Access to USENET News groups (T222-30.02.03)

This test verifies that the user can access USENET news groups.

Test Configuration:

- Hardware: Workstations
- Software: News Reader Tool, Desktop Manager
- Data: N/A
- Tools: XRunner

Test Input:

Initiate USENET news groups.

Test Output:

USENET news groups interface displayed.

Success Criteria:

Ability to access USENET news groups.

L3 Requirements:

IMS-1600#B

L4 Requirements:

S-CLS-13352

4.2.3.3.4 Test Case 4: Request Changes to Priorities and Authorization (T222-30.02.04)

This test verifies that a user can request changes to their account priorities and authorized user services.

Test Configuration:

- Hardware: Workstations
- Software: User Registration Tool, Workbench, Desktop Manager
- Data: User profile and account information.
- Tools: XRunner

Test Input:

The user will complete and send a request to change account priorities and authorized user services.

Test Output:

The request is sent to the SMC. After the request is processed a response to the request is displayed.

Success Criteria:

Requests will be processed and messages will be returned stating the outcome of the requests. Reasons for request denial will be stated. Policies and procedures will determine if a user can acquire requested access.

L3 Requirements:

IMS-0070#B

L4 Requirements:

S-CLS-13115

4.2.3.3.5 Test Case 5: Multiple Concurrent Service Requests (T222-30.02.05)

This test verifies that the user can submit multiple service requests at one time. Each service request will be tested for proper execution. The user can cancel any time-intensive service requests by issuing a cancellation request. The user can suspend and restore any service request by issuing suspend and restore requests. The user can issue a status request for a service request. Proper status of a service request will be given for canceled, suspended and restored requests.

Test Configuration:

- Hardware: Workstations
- Software: Workbench, Session Management Tool, Desktop Manager
- Data: N/A
- Tools: Xrunner, data management driver, IO driver

Test Input:

Submit several service requests. Select the desired service request to be canceled. Fill out a cancellation request and submit it. Select desired service requests to be suspended. Submit a suspend request for each service request chosen. Submit additional service requests. Submit a restore request for a few suspended service requests. Submit status requests.

Test Output:

Concurrent service requests are accepted and tasks pertaining to these service requests are performed. A Service request is canceled and response messages are displayed to the user. Service requests are suspended and response messages are displayed to the user. Additional service requests are initiated. A few of the suspended service requests are restored and response messages are displayed to the user. Status requests are accepted and processed.

Success Criteria:

Service requests are executed successfully. The service request associated with a cancellation request is successfully canceled. A cancellation message is displayed to the user. The service requests associated with a suspend request are successfully suspended. A suspend message is displayed to the user. Additional service requests can be submitted without disrupting the suspended service requests. Suspended service requests are successfully restored with a restore

request. A restore message is displayed to the user. Correct status of requested service requests is obtained.

L3 Requirements:

IMS-0020#B, IMS-0120#B, IMS-0140#B, IMS-0665#B, IMS-0740#B, IMS-0665#B, IMS-1300#B

L4 Requirements:

S-CLS-12550, S-CLS-13230, S-CLS-13240, S-CLS-14250, S-CLS-14520, S-CLS-15770

4.2.3.3.6 Test Case 6: Default Instructions (T222-30.02.06)

This test verifies that the workbench will accept notifications of events associated with service requests and sessions. The user can suppress and unsuppress the display of event notifications. If the user has selected the event notifications as unsuppressed, the events will be displayed to the user. If the events require instructions from the user, manual input will be accepted or default instructions will be executed. Default instructions are defined based on the type of event and session. Default instructions can be modified or removed. Some of the notifications are associated with subscriptions.

Test Configuration:

- Hardware: Workstations
- Software: Workbench, Desktop Manager
- Data: Generated event notifications, Generated default instructions
- Tools: Xrunner, data management driver

Test Input:

Several event notifications are suppressed. Default instructions are defined to response to event notifications that are suppressed. Notifications are sent from a service. The user enters any input needed for unsuppressed notifications. Default instructions are modified and removed. For removed default instructions, the directive to suppress that event notification is rescinded. Notifications are sent from a service.

Test Output:

Unsuppressed event notifications are displayed to the user. Any requested input is returned to the service that sent the notification. Suppressed event notifications use default instructions as a response to the service that sent the notification. Several default instructions are removed and several suppressed event notifications become unsuppressed.

Success Criteria:

Unsuppressed event notifications are displayed to the user. Input is prompted for certain notifications. Requested input is successfully sent to the requesting service. For suppressed event notifications this input comes from default instructions specified by the user. Specified default

instructions are successfully removed or modified and specified suppressed event notifications become unsuppressed.

L3 Requirements:

IMS-0670#B, IMS-1385#B

L4 Requirements:

S-CLS-12730, S-CLS-12740, S-CLS-12750, S-CLS-12760, S-CLS-12770, S-CLS-12780, S-CLS-12800, S-CLS-15970

4.2.3.3.7 Test Case 7: Interaction Level (T222-30.02.07)

This test verifies the ability to specify the interaction level option "Expert", "Intermediate", and "Novice". The option "Expert" will provide direct information input without any automatic supplied help. The option "Intermediate" will provide prompting and automatic supplied help. The option "Novice" will provide prompting and automatic help facilities.

Test Configuration:

- Hardware: Workstations
- Software: Workbench, Desktop Manager
- Data: N/A
- Tools: XRunner

Test Input:

Select the interaction level as "Expert". Perform input functions. Select the interaction level as "Intermediate". Perform input functions. Select the interaction level as "Novice". Perform input functions.

Test Output:

Interaction level is changed to expert. Direct information input is accepted. Interaction level is changed to intermediate. Prompting and automatically supplied help is displayed. Interaction level is changed to novice. Prompting and automatic help facilities are displayed.

Success Criteria:

No automatic supplied help is given to the user, when the interaction level is set to expert. Prompting and automatically supplied help of the intermediate level is displayed, when the interaction level is set to intermediate. Prompting and automatic help facilities of the novice level are displayed, when the intermediate level is set to novice.

L3 Requirements:

IMS-0160#B

L4 Requirements:

S-CLS-12920, S-CLS-12930, S-CLS-12940, S-CLS-12950, S-CLS-12960, S-CLS-12970

4.2.3.3.8 Test Case 8: DAAC-Specific Products (T222-30.02.08)

This test verifies that APIs will be provided to support development of extensions for support of data visualization utilities for DAAC-specific products.

Test Configuration:

- Hardware: Workstation
- Software: Desktop Manager
- Data: N/A
- Tools: Xrunner, DAAC visualization utility

Test Input:

File containing input parameters of the API. The simulator will input the parameters one at a time into the API.

Test Output:

File containing the output from the input parameters.

Success Criteria:

Through analysis, the output from the input parameters match the specified design of the API.

L3 Requirements:

IMS-1765#B

L4 Requirements:

S-CLS-13010

4.2.3.4 Desktop Thread

This thread will demonstrate verification of maintainable desktop objects, application interfaces, and a desktop manager. Functions of the desktop manager such as search, browse and displaying of objects will be tested. Additional tested functions of the desktop manager include listing, adding, and removing applications and services. Mailing of desktop objects will be tested using the desktop manager. Descriptions of interactions will also be obtained through the desktop manager. Testing will demonstrate the ability to create, delete, open, copy, and move desktop objects. Binding and unbinding services to objects will be tested and demonstrated by invoking the services. Tests will also be performed to execute software and obtain and update object data. Testing will demonstrate the installation and removal of application interfaces. Attributes of these application interfaces will be obtained and modified. Drivers are used to provided the required interfaces.

4.2.3.4.1 Test Case 1: Container Objects (T222-40.02.01)

This test verifies that a user can search container objects that desktop objects and their references utilize standard formats, that the display indicates changes in the status of an iconified window, and that screens requiring user input display optional fields differently from mandatory fields.

Test Configuration:

- Hardware: Client Workstation
- Software: Desktop Manager
- Data: Contents of container objects
- Tools: XRunner

Test Input:

Command the desktop to search for objects known to be in the container objects and for objects known not to be in the container objects. Inspect the format of the desktop objects and the references to the desktop objects, the status changes of an iconified window and the difference between optional and mandatory input fields.

Test Output:

Messages are displayed, indicating that the container objects has been located or not found. The desktop objects, references, status changes and optional and mandatory fields are displayed.

Success Criteria:

Objects that are in the container objects are located. Messages, indicating the object is not found, are displayed for objects that are not present in the container objects. A specified format is used for the desktop objects and desktop object references. The changes in the status of an iconified window are displayed. Optional input fields are displayed differently from mandatory input fields.

L3 Requirements:

IMS-0120#B, IMS-0190#B

L4 Requirements:

S-CLS-00360, S-CLS-01450, S-CLS-01460, S-CLS-01500, S-CLS-14000, S-CLS-14520

4.2.3.4.2 Test Case 2: Application and Service Classes (T222-40.02.02)

This test verifies that a user can list, add and remove applications or services supported by a specific object type. The user can also, list object types supported by a specific application or service class.

Test Configuration:

- Hardware: Workstation

- Software: Workbench, Desktop Manager
- Data: N/A
- Tools: XRunner

Test Input:

Select a specific application or service class. Request a list of object types supported by the selected application or service class. Select a specific object type. Request a list of applications or service classes supported by the selected object type. Add and remove applications and services supported by object types. Add and remove invalid applications and services. Add and remove applications and services not supported by object types. Request a list of applications and services supported by object types.

Test Output:

List of object types, applications and service classes are displayed. Added and removed applications and services supported by object types are accepted. Invalid added and removed applications and services are rejected and an error message is returned. Lists of applications and services are displayed.

Success Criteria:

List of object types displayed are object types supported by the specific application or service class selected. List of applications or service classes displayed are application or service classes supported by the specific object type selected. Lists of applications and services displayed include all added valid applications and services supported by object types. Invalid requests for adding applications and services are not present in the lists of applications and services. Lists of applications and services displayed do not include all removed valid applications and services supported by object types. Invalid requests for removing applications and services are not reflected in the lists of applications and services.

L3 Requirements:

IMS-0120#B

L4 Requirements:

S-CLS-00410, S-CLS-00420, S-CLS-00430, S-CLS-00440

4.2.3.4.3 Test Case 3: Obtain Description of Interactions (T222-40.02.03)

This test verifies that a user can obtain a description of the interaction between the workbench and specified tools.

Test Configuration:

- Hardware: Workstation
- Software: Workbench, Desktop Manager
- Data: N/A

- Tools: XRunner

Test Input:

Activity between workbench and tools. Request descriptions of interactions between workbench and tools.

Test Output:

Description of the interactions between the workbench and given tools are displayed.

Success Criteria:

Valid descriptions of the interactions between the workbench and given tools are displayed. Interaction descriptions of tools not specified are not displayed.

L3 Requirements:

IMS-0120#B, IMS-1380#B

L4 Requirements:

S-CLS-00640

4.2.3.4.4 Test Case 4: Desktop Objects (T222-40.02.04)

This test verifies that the user can work with desktop objects. The workstation displays have standardized display and operation features. Icons can be placed on the desktop and the locations saved. Desktop objects and references to objects can be copied and deep copied. Desktop objects in a container objects are iteratively opened and manipulated. ECS services are copied to the desktop as icons and saved. The test verifies that menu tree diagram and prompts are displayed for object addition, modification, deletion and unsaved edits.

Test Configuration:

- Hardware: Workstation
- Software: Workbench, Desktop Manager
- Data: N/A
- Tools: XRunner

Test Input:

Inspect the menu tree diagram on the desktop. Inspect the various displays for standardized display and operation. Display, manipulate and save the positions of several icons. Copy a desktop object, copy the reference to the object, then deep copy the same object. Request and update desktop object data from several desktop objects. Copy an ECS service onto the desktop, iconize it, and save it as a desktop object. Quit while editing a workbench object. Answer yes to the "Save Edit?" prompt. Reopen the object and inspect the contents. Add, modify and delete several desktop objects.

Test Output:

The menu tree is displayed. Displays are shown and operations are completed. The icons are moved on the desktop, and remain where last saved. The contents of a desktop object are copied. An ECS service is iconized and displayed as a desktop object. Desktop object data is saved and updated. Prompts are displayed when the user quits the editing of a workbench object with unsaved changes. Confirmation prompts are displayed when the desktop objects are added, changed and deleted.

Success Criteria:

The menu tree is correctly displayed. The displays and operations are in accordance with specified guidance. The icons are properly manipulated and remain where they were last saved. The copied contents of a desktop object are identical to the original. An iconized ECS service icon is displayed. Desktop object data is correctly saved and updated. The specified prompts are displayed when the user quits the editing of a workbench object with unsaved changes. The correct confirmation prompt is displayed for desktop objects add, change and delete actions.

L3 Requirements:

EOSD5040#B, IMS-100#B, IMS-0120#B, IMS-0190#B, IMS-1380#B

L4 Requirements:

S-CLS-00140, S-CLS-00220, S-CLS-00240, S-CLS-00260, S-CLS-00270, S-CLS-01550, CLS-01620, S-CLS-14010, S-CLS-15810, S-CLS-15910

4.2.3.4.5 Test Case 5: Associated Object Services (T222-40.02.05)

This test verifies that a user can list the available services associated with a desktop object, then bind and unbind services to the object.

Test Configuration:

- Hardware: Workstation
- Software: Workbench, Desktop Manager
- Data: N/A
- Tools: XRunner

Test Input:

List available services associated with a variety of desktop objects. Request valid and invalid binding of services to a variety of desktop objects. Re-display lists of available services associated with desktop objects.

Test Output:

Lists of available services associated with desktop objects are displayed. Services are bound and unbound to desktop objects, for valid requests. Services that can not be bond to a specific desktop object are rejected and a response message is displayed. Services that can not be unbound to a specific desktop object are rejected and a response message is displayed. are displayed. Services and software associated with a desktop object are invoked.

Success Criteria:

Lists of available services associated with desktop objects are displayed. Valid requests to bind and unbind services to a desktop object are successfully completed and are reflected in the available services lists. Invalid requests to bind services to a desktop object are rejected and are not present in the available services lists. Invalid requests to unbind services to a desktop object are rejected.

L3 Requirements:

IMS-0120#B, EDOS5040#B

L4 Requirements:

S-CLS-00280, S-CLS-00295

4.2.3.4.6 Test Case 6: Application Interface (T222-40.02.06)

This test verifies the ability to install and remove an application interface. Attributes associated with an application interface will be obtained and modified.

Test Configuration:

- Hardware: Workstation
- Software: Workbench, Desktop Manager
- Data:
- Tools:

Test Input:

Install a number of application interfaces. Remove a number of application interfaces. Obtain and modify the attributes associated with an application interface.

Test Output:

Application interfaces are installed and removed. Attributes associated with an application interface are displayed and updates are accepted.

Success Criteria:

Application interfaces are successfully installed and removed. Attributes are successfully obtained for a given application interface and are successfully modified.

L3 Requirements:

EOSD5010#B, EOSD5030#B, EOSD5040#B, EOSD5060#B, IMS-0120#B

L4 Requirements:

S-CLS-00450, S-CLS-00460, S-CLS-00470, S-CLS-00490

4.2.3.4.7 Test Case 7: Mail Desktop Objects (T222-40.02.07)

This test verifies that a user can mail desktop objects.

Test Configuration:

- Hardware: 2 client workstations, connected by a LAN
- Software: Desktop Manager, E-mailer Tool, e-mail server
- Data: Desktop object contents
- Tools: XRunner

Test Input:

Using desktop objects on a local workstation, mail a variety of desktop objects. Generate a desktop object from a mailed desktop object on the recipient's local workstation.

Test Output:

Desktop objects are generated into an exchangeable form (i.e. file-based). Desktops objects are mailed. Desktop objects are generated from an externalized format (i.e. file-based).

Success Criteria:

Desktop objects are successfully converted to exchangeable form, mailed and received by the recipient. The recipient successfully generates the desktop object out of the externalized format.

L3 Requirements:

EOSD5040#B, IMS-0120#B, IMS-1600#B

L4 Requirements:

S-CLS-00310, S-CLS-00320, S-CLS-01360

4.2.3.5 Client Services Build Test (B222.02)

The objective of the Client Integrated Build Test is to verify that the client functions continue to operate correctly when the threads have been integrated. This test verifies that the user can access to the Client subsystem, that the desktop objects function correctly, and that the user can create and use sessions and session logs. Drivers are used to provided the required interfaces.

Test Configuration:

- Hardware: Client workstation, local web terminal, remote web terminal
- Software: Desktop Manager, Science Workbench
- Data: Contents for container objects, data search and order forms, metadata search result data, session user profile data, User Session Logs, user session status information, service request status notification, guide documents

- Tools: Xrunner; drivers to simulate DMS and DS data request responses, session management responses, status information and notifications

4.2.3.5.1 Test Case 1: Desktop Access (B222.02.01)

This test verifies the capability to access the ECS system from a Client workstation and a web terminal interface. The test verifies that the user can save and restore menus, forms and their contents.

Test Input:

Access the ECS system from both a Client workstation and remote and local web terminals. Create, populate and save a form and its contents. Display a menu and populate it. Save the contents of the menu. Redisplay the populated menu and forms.

Test Output:

The Client workstation and local and remote web terminals access the ECS system. The Client desktop and applications are displayed at all workstations. The menus and forms are displayed, populated and saved with their contents.

Success Criteria:

The Client functions are successfully accessed from both local and web workstations. The selected applications are launched. The redisplayed forms and menus and their contents are exactly as saved.

L3 Requirements:

IMS-0110#B, IMS-0120#B

L4 Requirements:

S-CLS-12070, S-CLS-12820, S-CLS-12870

4.2.3.5.2 Test Case 2: Desktop Objects (B222.02.02)

This test verifies that the user can work with desktop objects. Desktop objects and references to objects can be copied and deep copied. Desktop objects in a container objects are iteratively opened and manipulated. ECS services are copied to the desktop as icons and saved. The test verifies that menu tree diagram and warning prompts for unsaved edits are displayed.

Test Input:

Inspect the menu tree diagram on the desktop. Copy a desktop object, copy the reference to the object, then deep copy the same object. Request and update desktop object data from several desktop objects. Copy an ECS service onto the desktop, iconize it, and save it as a desktop object. Quit while editing a workbench object. Answer yes to the “Save Edit?” prompt. Reopen the object and inspect the contents.

Test Output:

The menu tree is displayed. The contents of a desktop object are copied. An ECS service is iconized and displayed as a desktop object. Desktop object data is saved and updated. Prompts are displayed when the user quits the editing of a workbench object with unsaved changes.

Success Criteria:

The menu tree is correctly displayed. The copied contents of a desktop object are identical to the original. An iconized ECS service iconized is displayed. Desktop object data is correctly saved and updated. The specified prompts are displayed when the user quits the editing of a workbench object with unsaved changes.

L3 Requirements:

EOSD5040#B, IMS-0120#B

L4 Requirements:

S-CLS-00220, S-CLS-00240, S-CLS-00260, S-CLS-00270, S-CLS-00350, S-CLS-01550, S-CLS-14010, S-CLS-15810

4.2.3.5.3 Test Case 3: User Sessions and Logs (B222.02.03)

This test verifies that multiple concurrent sessions can be launched. Session logging will be enabled and disabled. Service Request, Service Request Status Requests, and Notifications will be generated and received. Session logs will be requested and reviewed.

Test Input:

Submit several service requests to initiate several interactive user sessions. Request the status of the sessions. Enable and disable logging of the User Session Logs. Request, and review the User Session Logs. Request the user profile. Use the defaults of a session profile to create another service request. Submit the request.

Test Output:

Service requests are accepted. Status messages are displayed. Session Logs are displayed. The session profile is displayed. The request with defaults from the session profile is accepted and creates a new session.

Success Criteria:

Multiple concurrent sessions are successfully established. Service requests are executed successfully. Session data is recorded when the logging is enabled. The recorded data includes the logging of service requests, service request status and notifications. No data is available when logging is disabled. Defaults from the session profile are used in a request and the establishment of a new session.

L3 Requirements:

IMS-0050#B, IMS-0140#B, IMS-0180#B, IMS-1300#B

L4 Requirements:

S-CLS-11050, S-CLS-12540, S-CLS-12670, S-CLS-12680, S-CLS-12690, S-CLS-13200, S-CLS-13470

4.2.4 Data Management Subsystem

4.2.4.1 Enhanced Advertising Services Thread II

This thread will focus on the advertising service functions. The advertising service provides the interfaces needed to support interactive browsing and searching of advertisements as required. Such functions will include being able create, edit, delete advertising about itself and submitting them to the advertising service. Providing current mode on request, providing logistics and maintenance status to SMC, displaying SMC directives to operator personnel, providing advertising that describes science processing library holdings and providing MSS configuration information such as expected moderation approval time.

4.2.4.1.1 Test Case 1: Advertising Administration (T231-20.02.01)

The following tests verifies the capability to perform advertising services. The administrator will be capable of manipulating the advertising data by being able create, edit and delete advertisements about itself and submitting them to the advertisement service.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Workbench interface to create, edit and delete advertisement data.

Test Output:

User able to create, edit and delete advertising information. Information indicate a delete did take place. Event log contains an entry for the activation of the delete access.

Success Criteria:

User able to create, edit and delete advertising information pertaining to the advertising service.

L3 Requirements:

IMS-0030#B, IMS-0220#B, IMS-0360#B, IMS-0390#B

L4 Requirements:

S-DMS-00750.

4.2.4.1.2 Test Case 2: Advertising Ancillary Test (T231-20.02.02)

The following tests verifies the capability to perform advertising ancillary functions such as:

- Collecting accounting management data.
- Providing advertisement that describe science processing library holdings.
- Provide logistics and maintenance status to SMC.
- Display SMC directives.
- Provide current mode on request.
- Provide MSS configuration information such as expected approval time.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

Workbench interface to perform collection of accounting management data, displaying SMC directives, providing logistics and maintenance status to SMC, providing current mode, and viewing MSS configuration information.

Test Output:

User able to collect accounting management data, displaying SMC directives, providing logistics and maintenance status to SMC, providing current mode, and viewing MSS configuration information.

Success Criteria:

User able to collecting accounting management data, providing advertisement that describe science processing library holdings, provide logistics and maintenance status to SMC, display SMC directives, provide current mode on request, provide MSS configuration information such as expected approval time.

L3 Requirements:

IMS-0270#B, IMS-1630#B, IMS-1620#B, IMS-1640#B, IMS-1660#B, IMS-0630#B, IMS-0650#B.

L4 Requirements:

S-IOS-00516, S-IOS-00517, S-IOS-00590, S-IOS-00940, S-IOS-00950, S-IOS-00960.

4.2.4.1.3 Test Case 3 Advertising Subscription Test (T231-20.02.03)

The following tests verifies the capability to perform advertising service functions such as

- Add subscriptions for advertisement
- Register subscribable events
- Retrieve affected advertisement

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, WKBCH CI, DESKT CI.
- Data: Various data types are ingested to support new data arrival as indicated in the subscription, schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Test Input:

From GUI interface. Select option to add advertising subscription, retrieve advertisement, and register subscribable events.

Test Output:

Subscriptions are added, retrieved and subscribable events are registered. Administrative log reflects an entry for the above function.

Success Criteria:

This test is considered successful when the subscriptions are added, retrieved and subscribed events are registered.

L3 Requirements:

IMS-1620#B.

L4 Requirements:

S-IOS-00640, S-IOS-00670, S-IOS-00680.

4.2.4.2 Local Information Manager Service Thread IIA

This thread will focus on LIM functions such as creating utilization reports and distribute them electronically or via electronic media, to abort any time intensive operation and restart without loss of data, to establish a client sessions, suspend, resume and terminate an established session, to establish multiple concurrent sessions, suspend all active sessions, resume any or all sessions previously suspended and terminate any or all active or suspended sessions, specify time-out period for inactive sessions, inactive sessions are automatically suspended and restore session after interruption.

4.2.4.2.1 Test Case 1: LIM Summary Report Test (T231-31.02.01)

This test verifies the ability to create utilization reports and distribute them electronically or via electronic media. The report will be generated by the system administrator. This report will be sent to appropriate destinations electronically, in hard copy, or on electronic media. Generate operations and performance reports.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: Schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

From the science workbench. Enter command to create utilization reports. Retrieve utilization report. Specify location to be distributed to through the network or store utilization report on to electronic media. Distribute electronic media manually to other specified location. Generate operation and performance reports.

Output:

Utilization report is generated. Report distributed to specified location as per request. message log indicates distribution. Operations and performance report generated.

Success Criteria:

The report is generated with all the utilization data. Report is retrieved and distributed to specified location. Receipt of report by the other location is verified by confirming receipt. Report is also stored onto electronic media. Operation and performance reports generated.

L3 Requirements:

IMS-1680#B, IMS-1690#B, IMS-1700#B.

L4 Requirements:

S-DMS-00705, S-DMS-00706, S-DMS-00605, S-DMS-00606.

4.2.4.2.2 Test Case 2: LIM Time Operations Test (T231-31.02.02)

This test demonstrates the capability to abort any time intensive operation and restart without loss of data. If for any reason a particular operation is taking too long, the administrator or user depending on what kind of access privileges they have, can manually abort that operation. This test will also verify that after a processing failure incomplete transactions are finished without any loss of data.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: Schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Perform a local search such as searching data by science discipline. Manually abort the operation at any time and restart.

Output:

The operation is aborted upon user's request and restarted without loss of data.

Success Criteria:

The search request is aborted as per user as well as in a processing failure. Upon restart of the LIM, the transaction is continued without loss of data. This can be verified by running another separate transaction without restarting the LIM and compare those results.

L3 Requirements:

IMS-0240#B, IMS-0250#B, IMS-0665#B.

L4 Requirements:

S-DMS-00560, S-DMS-00240, S-DMS-00470.

4.2.4.2.3 Test Case 3: LIM Single Session Test (T231-31.02.03)

This test verifies the LIM capability to establish a client sessions, suspend, resume and terminate an established session. It will also be able to forward commands to terminate a session to all servers which are a part of that session.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, , LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: Schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

User Interface. Execute command to establish client session, suspend, resume and terminate client session.

Output:

Client session are established, suspended, resumed and terminated as per request. LIM log contains an entry for the successful client session established, suspended, resumed and terminated

Success Criteria:

Session are established, suspended, resumed and terminated.

L3 Requirements:

IMS-1520#B, IMS-0560#B.

L4 Requirements:

S-DMS-00060, S-DMS-00070, S-DMS-00080, S-DMS-00090, S-DMS-01060.

4.2.4.2.4 Test Case 4: LIM Multiple Session Test (T231-31.02.04)

This test verifies the LIM capability to establish multiple concurrent sessions, suspend all active sessions, resume any or all sessions previously suspended and terminate any or all active or suspended sessions.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: Schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

User Interface. Execute command to establish multiple client session, suspend all active sessions, resume any or all sessions previously suspended and terminate any or all active or suspended sessions.

Output:

Multiple client sessions are established, all active sessions are suspended, resume any or all sessions previously suspended and terminate any or all active or suspended sessions. LIM log contains an entry for each of the successful functions.

Success Criteria:

Multiple sessions are established, all active sessions are suspended, any or all sessions previously suspended are resumed and any or all active or suspended sessions are terminated.

L3 Requirements:

IMS-0140#B.

L4 Requirements:

S-DMS-00960, S-DMS-00890, S-DMS-00970, S-DMS-00980.

4.2.4.2.5 Test Case 5: LIM Session Interruption Test (T231-31.02.05)

This test verifies the LIM capability to specify time-out period for inactive sessions, inactive sessions are automatically suspended and restore session after interruption.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: Schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

User Interface. Execute command to specify time-out period for inactive sessions, and restore sessions after interruption.

Output:

Inactive sessions are automatically suspended after specified time-out period. Interrupted session is also restored.

Success Criteria:

The specified session with the time-out period is automatically suspended and the interrupted session is restored.

L3 Requirements:

IMS-0120#B.

L4 Requirements:

S-DMS-01000.

4.2.4.2.6 Test Case 6: LIM Session Establishment (T231.31.02.06)

This test verifies the capability to report status of sessions established by the LIM. This test case demonstrates the capability to retrieve status of sessions that are visible to the LIM. If the user wants to know the status of the sessions, user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.

- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: Schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Inputs includes the user initiating the request by clicking on the status of sessions established by LIM object..

Output:

Outputs include information regarding the status of sessions established by the LIM.

Success Criteria:

This test is deemed successful if the status of the retrieval request is returned to the user. This status will contain sessions establish by the LIM.

L3 Requirements:

IMS-0140#B.

L4 Requirements:

S-DMS-00860.

4.2.4.3 Local Information Manager Service Thread IIB

This thread will focus on LIM functions such as to viewing all the different logs for sessions and service requests, access data based user privileges, data types and data ownership, view current result set of a search request. The LIM will also test multiple instrument inventory search, single instrument inventory result set and multiple instrument inventory result set consisting of multiple keyword attributes within time range check or special range check and integrating the results and providing a complete result set, status of maintenance, logistics, training, integration, testing and simulation to the SMC and collect management data for data review purposes and data tracking.

4.2.4.3.1 Test Case 1: LIM Log Test (T231-32.02.01)

This test demonstrates the ability to view all the different logs for sessions and service requests. Entries in the log are sorted by data type and time frame. This test also demonstrates ability to log all query logs on a query log file. Some of the log information logged will include initiation, termination, suspension, resumption of previously suspended session. Other logs will include service request initiated, suspension, resumption, termination of a service request.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: Schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

View log files. View log for all the session and service request.

Output:

Entries made during any session or service request is logged. Log displays entries of several session and service request functions. Entries made to the query log as data and search requests are processed.

Success Criteria:

Log contains sessions and service request functions.

L3 Requirements:

IMS-0665#B, IMS-0140#B, IMS-1660#B, IMS-1650#B, IMS-1640#B.

L4 Requirements:

S-DMS-00250, S-DMS-00915, S-DMS-00920, S-DMS-00930, S-DMS-00940, S-DMS-01010, S-DMS-01020, S-DMS-01030, S-DMS-01040, S-DMS-00912, S-DMS-00913, S-DMS-01011, S-DMS-01012, S-DMS-01013, S-DMS-01014, S-DMS-01015, S-DMS-01016, S-DMS-01017.

4.2.4.3.2 Test Case 2: Access Control Test (T231-32.02.02)

This test verifies the tester ability to access data based user privileges, data types and data ownership. This test demonstrates the ability of authorized personnel to use the access control administrative utilities. These utilities are accessed by authorized users only and are used to establish and maintain user access privileges. Various user accounts will be established with different access privileges. Each user account will be used to access allowable and restricted operations. The LIM will use the identification of the user on whose behalf a Service Request is issued as the basis for access control decisions. The LIM will also forward the identification of users on whose behalf a service request is issued to the data servers for service requests issued on behalf of the users.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Data request with (User privileges, data ownership)

Output:

Data Availability Notification to signal availability of data.

Success Criteria:

This test is considered successful if the system allows authorized users to perform the restricted operations. Non-authorized users must not be capable of accessing the restricted operations. An error message, stating access to the restricted operation is denied, should appear on the users screen each time a non-authorized user attempts to perform a restricted operation.

L3 Requirements:

IMS-0210#B, IMS-0230#B, EOSD2400#B, IMS-0260#B, IMS-0350#B.

L4 Requirements:

S-DMS-00190, S-DMS-00200, S-DMS-00540.

4.2.4.3.3 Test Case 3: Result Set Test (T231-32.02.03)

This test verifies the testers ability to view current result set of a search request. A search request is performed to obtain a result sets. The result set is viewed to verify it contains information specific to the search request.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Perform search request. Initiate command to view the current result set of a search query.

Output:

Current result set is displayed. Log file is updated.

Success Criteria:

This test is deemed successful when the current result set is displayed with the the most most current request information. Those request information will be specific to the search criteria.

L3 Requirements:

IMS-0560#B.

L4 Requirements:

S-DMS-00120.

4.2.4.3.4 Test Case 4: LIM Instrument Inventory Search Response Time (T231-32.02.04)

This test verifies that LIM will contribute to the response time as specified in a single instrument inventory search, multiple instrument inventory search, single instrument inventory result set and multiple instrument inventory result set consisting of multiple keyword attributes within time range check or special range check and integrating the results and providing a complete result set.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Entries of single and multiple instruments inventory search and result set are repeatedly tested to verify the performance requirement.

Output:

Performance statistics information

Success Criteria:

Performance response timing are met.

L3 Requirements:

IMS-1780#B, IMS-1785#B.

L4 Requirements:

S-DMS-00480, S-DMS-00490, S-DMS-00500, S-DMS-00510.

4.2.4.3.5 Test Case 5: LIM Status Report to SMC (T231-32.02.05)

This test verifies the capability to for the LIM to provide status of maintenance, logistics, training, integration, testing and simulation to the SMC. This test case demonstrates the capability to retrieve status of a functional area.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Inputs includes the user intimating the request by clicking on the status of integration, simulation or testing, maintenance, logistics, and training object.

Output:

Outputs include information regarding the status integration, simulation or testing, maintenance, logistics, and training.

Success Criteria:

This test is deemed successful if the status of the retrieval request is returned to the user. Such status include maintenance, logistics, training, integration, testing and simulation.

L3 Requirements:

IMS-1640#B.

L4 Requirements:

S-DMS-00570, S-DMS-00580, S-DMS-00590, S-DMS-00600.

4.2.4.3.6 Test Case 6: Directives from SMC (LIM) (T231-32.02.06)

The following tests verifies the capability for the LIM to receive directives from SMC. Such directives include maintenance, configuration management, logistics management, fault, security, training and testing and simulation directives.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

External interface with SMC. Inputs includes directives sent from SMC to perform a specified task such as maintenance, configuration management, logistics management, fault, security, training and testing and simulation directives.

Output:

Output include the all specified directives received by the LIM and acted upon accordingly.

Success Criteria:

This test is deemed successful when the all specifed directives are received by the LIM and the directives is carried out. Such directives are maintenance, configuration management, logistics management, fault, security, training and testing and simulation directives.

L3 Requirements:

IMS-1630#B, SDPS0015#B.

L4 Requirements:

S-DMS-00610, S-DMS-00620, S-DMS-00630, S-DMS-00640, S-DMS-00650, S-DMS-00660, S-DMS-00670, S-DMS-01080.

4.2.4.3.7 Test Case 7: LIM Management Data Collection (T231-32.02.07)

The following tests verifies the capability for the LIM to collect management data for data review purposes and data tracking. Such management data include security, configuration management, accounting, accountability, performance and configuration information.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select fault management data. Some of such management data include security, configuration management, accounting, accountability, performance and configuration information.

Output:

Output of specified management data will be displayed.

Success Criteria:

This test is deemed successful when the all specified management data are displayed. Such management data include security, configuration management, accounting, accountability, performance and configuration information.

L3 Requirements:

EOSD2400#B, IMS-1620#B, IMS-1660#B.

L4 Requirements:

S-DMS-00530, S-DMS-00690, S-DMS-00700, S-DMS-00710, S-DMS-00720, S-DMS-00730.

4.2.4.4 Distributed Information Manager Service Thread IIA

The DIM will accept requests to initiate, suspend, resume and terminate client sessions; manage distributed queries or access requests; inquire about the status of these request; produce both complete and incomplete results; and update its internal schema.

The DIM uses a schema which is federated from schemata at the underlying service providers (e.g. DIM). After the DIM accepts a request from a client, it acts as an agent for that client and assumes complete responsibility for execution of the query and compilation of the results.

A DIM does not execute requests on its own, but it determines how they should be executed. This is called a distributed query plan. The plan specifies the services which the DIM must invoke, including any operations which the DIM may need to perform to combine or collate the results. The DIM will execute the plan, monitor its progress, and compile and manage the results for the requesting client. The client can disconnect from the DIM and reconnect later to determine the status of a query, obtain partial result, or cancel the query.

4.2.4.4.1 Test Case 1: DIM Schema Administrative Test (T231-41.02.01)

This test demonstrates the capability to add, delete, update or modify existing data of field in the DIM schema. Testing will also be performed to ensure that the DIM is capable of storing, maintaining and providing data management services for the federated schema. Other functions are distributed data access and manipulations operations will be fully tested.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCI, DESKCI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Administrator tool, add, delete and update new or existing data and field. Scientist workbench. Generate a query for a known data product for a DAAC.

Test Output:

New data and field or existing data and field are added, deleted or modified to the DIM schema and are accessible to the user community. Administration log contains an entry for the change to the DIM schema. Data products for the DAAC under test are provided to the tester. Event log contains entries of logon to the DAAC under test and the query results.

Success Criteria:

The DIM database contains the updated information of the new data and field changes. The administrative log will contain changes such as additions, deletions or modifications to the DIM schema. Only data available for the DAAC under test is provided.

L3 Requirements:

IMS-0240#B, IMS-0250#B, IMS-0355#B, EOSD5100#B, IMS-0550#B, IMS-0560#B, IMS-0575#B, IMS-0220#B.

L4 Requirements:

S-DMS-10240, S-DMS-10090, S-DMS-10650.

4.2.4.4.2 Test Case 2: Federated Schema Creation Test(T231-41.02.02)

The following test will verify DIM's ability to create a union of schema, receive local LIM schema, revise federated schema and view schemata received from LIM. First the DIM will receive local schema from the LIM services and the creation of a federated schema will be tested by combining several schemata from the LIM. If changes are made to the LIMs schema, changes will be applied to the federated schema. Maintenance of the federated schema will be handled by the distributed schema administrator.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Administrator tool, create a union of schema. External interface with LIM. Ingest ready to receive data notification. Activate the tool to access the DIM, and query the DIM for the schemata received. Make changes to federated schema.

Test Output:

Union of schema is created and is accessible to the user community. Administration log contains an entry for the change to the DIM schema. Data ingest log contains an entry for the successful ingest of local LIM schema. Federated schema shows revision to the schema. The LIM schemata received is displayed.

Success Criteria:

This test is successful when the received schemata can be viewed, union of schema is created, local LIM schema received and federated schema is revised.

L3 Requirements:

IMS-0240#B, IMS-0250#B, IMS-0560#B, IMS-0575#B.

L4 Requirements:

S-DMS-10150, S-DMS-10160, S-DMS-10170, S-DMS-10180, S-DMS-10250.

4.2.4.4.3 Test Case 3 DIM Log Test (T231-41.02.03)

This test demonstrates ability to log all DIM query logs on a DIM query log file. A series of DIM distributed searches from previous tests will be performed and as these activities are processed they will be entered into the DIM query log file. Entries in the log are sorted by data type and time frame. This test also demonstrates ability to view all the different logs for sessions and service requests.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Input into this test include the DIM distributed searches. Commands are entered to view and sort the DIM query log. View log for all the session and service request.

Test Output:

Entries made to the DIM query log as data and search requests are processed. Entries made during any session or service request is logged. Log displays entries of several session and service request functions.

Success Criteria:

The DIM query log file indicates such DIM distributed searches. Some of the DIM logs will include initiation, termination, suspension, resumption of previously suspended sessions. Others include the following:

- Log to MSS when service request is initiated during a session.
- Successful completion of each service request to MSS.

- Log to MSS when service request is activated from the queue.
- Log to MSS when service has been successfully decomposed into its component requests.
- Log to MSS when external connection has been established.
- Log to MSS when the component service request has been submitted to external entity.
- Log to MSS when the request to the external entity has been successfully returned.
- Log to MSS when the results of the external requests have been integrated and status is about to be sent to the client program.
- Log suspension of processing of processing of service request.
- Log resumption of previously suspended service request.
- Log termination of service request.
- Log startup of dim server to MSS.
- Log shutdown to DIM servers to MSS.

L3 Requirements:

IMS-0665#B, IMS-0140#B, IMS-1660#B, IMS-1650#B, IMS-1665#B, IMS-1640#B.

L4 Requirements:

S-DMS-10130, S-DMS-10915, S-DMS-10920, S-DMS-10930, S-DMS-10940, S-DMS-11010, S-DMS-11020, S-DMS-11030, S-DMS-11040, S-DMS-10595, S-DMS-10596, S-DMS-11011, S-DMS-11012, S-DMS-11013, S-DMS-11014, S-DMS-11015, S-DMS-11016, S-DMS-11017.

4.2.4.4.4 Test Case 4: Manage Distributed Query Plan Test (T231-41.02.04)

This test verifies the ability to for the DIM to compile, manage, execute, monitor results to the distributed query plan without continuous connection with the client. The client will have the capability to disconnect and reconnect to the DIM to retrieve results of the distributed query plan.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Scientist workbench. Select option to compile and execute distributed query plan. disconnect and reconnect to the DIM. Retrieve results after connection.

Test Output:

The distributed query plan is retrieved after reconnection.

Success Criteria:

The distributed query plan will be saved after client disconnection. This test is deemed successful after client reconnection to the DIM and is still able to retrieve the results of the distributed query plan.

L3 Requirements:

IMS-0550#B, IMS-0560#B, IMS-0575#B

L4 Requirements:

S-DMS-10060, S-DMS-10070.

4.2.4.4.5 Test Case 5: Schema Entry Retrieval Test (T231-41.02.05)

This test verifies the capability to find and retrieve a schema entry from DIM database. Access to a schema should be available through an interface on the scientist workbench.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Scientist workbench. Select option to retrieve a schema entry from DIM database. Generate a query for known schema entry.

Test Output:

Schema entry is provided to the tester. Event log contains entries for query initiation and result.

Success Criteria:

Schema entry available from the DIM database is provided.

L3 Requirements:

IMS-0560#B, IMS-0575#B.

L4 Requirements:

S-DMS-10300.

4.2.4.4.6 Test Case 6: DIM Single Session Test (T231-41.02.06)

This test verifies the DIM capability to establish a client sessions, suspend, resume and terminate an established session. Some of the other functions include:

- Establish a session as the context for a series of service requests.
- Suspend ongoing session.
- Resume a suspended session.
- Terminate an established client session.
- Terminate sessions at server which are a part of that session.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

User Interface. Execute command to establish client session, suspend, resume and terminate client session.

Test Output:

Client session is established, suspended, resumed and terminated as per request. DIM log contains an entry for the successful client session established, suspended, resumed and terminated

Success Criteria:

The test is deemed successful when the following functions are satisfied. They include:

- Establish a session as the context for a series of service requests.
- Suspend ongoing session.
- Resume a suspended session.
- Terminate an established client session.
- Terminate sessions at server which are a part of that session.

L3 Requirements:

IMS-1520#B, IMS-0560#B, IMS-0575#B, IMS-0630#B, IMS-0650#B.

L4 Requirements:

S-DMS-11060, S-DMS-10660, S-DMS-10670, S-DMS-10680, S-DMS-10690,

4.2.4.4.7 Test Case 7: Earth Science Query Language Tests (T231-41.02.07)

This test verifies the capability to support the following specification of search expressions and conditions for the following Earth Science Query Language functions:

- Search conditions using search expressions in combination with boolean and relational operators.
- Search expressions using the attribute names and exact word matches for string attributes associated with non-geographic metadata.
- Search expressions using the attribute names and phrase matches for string attributes associated with non-geographic metadata.
- Search expressions using the attribute names and character sets for string attributes associated with non-geographic metadata.
- Search expressions using the attribute names and wildcards construct for string attributes associated with non-geographic metadata.
- Search expressions using the attribute names and character range for string attributes associated with non-geographic metadata.
- Search expressions using the attribute names and minimum and maximum range for numeric and data/time attributes associated with non-geographic metadata.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCI CI, DESKTI CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Enter search expression for the different queries.

Test Output:

Search package contains search results of corresponding search request made.

Success Criteria:

This test is deemed successful upon successful completion of search request and adequate search results are obtained based on the search request for search conditions using search expressions in combination with boolean and relational operators, attribute names and exact word matches, phrase matches, character sets, wildcards construct, and minimum and maximum range for numeric and data/time attributes associated with non-geographic metadata.

L3 Requirements:

IMS-0630#B, IMS-0650#B.

L4 Requirements:

S-DMS-10765, S-DMS-10770, S-DMS-10771, S-DMS-10772, S-DMS-10773,
S-DMS-10774, S-DMS-10775, S-DMS-10776.

4.2.4.4.8 Test Case 8: DIM Multiple Session Test (T231-41.02.08)

This test verifies the DIM capability to establish multiple concurrent sessions, suspend all active sessions, resume any or all sessions previously suspended and terminate any or all active or suspended sessions.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.

- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

User Interface. Execute command to establish multiple client session, suspend all active sessions, resume any or all sessions previously suspended and terminate any or all active or suspended sessions.

Test Output:

Multiple client sessions are established, all active sessions are suspended, resume any or all sessions previously suspended and terminate any or all active or suspended sessions. DIM log contains an entry for each of the successful functions.

Success Criteria:

Multiple sessions are established, all active sessions are suspended, any or all sessions previously suspended are resumed and any or all active or suspended sessions are terminated.

L3 Requirements:

IMS-0140#B

L4 Requirements:

S-DMS-10960, S-DMS-10890, S-DMS-10970, S-DMS-10980

4.2.4.4.9 Test Case 9: DIM Session Interruption Test (T231-41.02.09)

This test verifies the DIM capability to specify time-out period for inactive sessions, inactive sessions are automatically suspended and restore session after interruption.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

User Interface. Execute command to specify time-out period for inactive sessions, and restore sessions after interruption.

Test Output:

Inactive sessions are automatically suspended after specified time-out period. Interrupted session is also restored.

Success Criteria:

The specified session with the time-out period is automatically suspended and the interrupted session is restored.

L3 Requirements:

IMS-0120#B.

L4 Requirements:

S-DMS-11000.

4.2.4.4.10 Test Case 10: DIM Session Establishment (T231-41.02.10)

This test verifies the capability to report status of sessions established by the DIM. This test case demonstrates the capability to retrieve status of sessions that are visible to the DIM. If the user wants to know the status of the sessions, user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WK BCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Inputs includes the user intimating the request by clicking on the status of sessions established by DIM object..

Test Output:

Outputs include information regarding the status of sessions.

Success Criteria:

This test is deemed successful if the status of the retrieval request is returned to the user.

L3 Requirements:

IMS-0140#B.

L4 Requirements:

S-DMS-10860.

4.2.4.5 Distributed Information Manager Thread IIB

This thread will focus on verify that the DIM can have multiple service request can be within a session. Other tests include resume, suspend and terminate the process of an active service request or a previously suspended service request, send notification to users via email in the event that the user request is canceled, initiate, send, report and save the results of a service request for later reuse, estimate the resources required to execute a pending service, and provide status of maintenance, logistics, training, integration, testing and simulation to the SMC

4.2.4.5.1 Test Case 1: Multiple Service Request Test (T231-42.02.01)

This test verifies that multiple service request can be within a session. Testing will be checked to confirm that multiple service request exist within a session.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

User Interface. Open several service request within that session.

Test Output:

Several service request appear within one session.

Success Criteria:

This test is deemed successful when several service request appear within a session.

L3 Requirements:

IMS-0140#B.

L4 Requirements:

S-DMS-10895.

4.2.4.5.2 Test Case 2: DIM Single Service Request Test (T231-42.02.02)

This test verifies that the DIM is capable of resume, suspend and terminating the process of an active service request or a previously suspended service request. This test will also verify that the tester can send notification to users via email in the event that the user request is canceled.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

User Interface. Execute command to resume, suspend and terminate the process of an active or previously suspended service request. Also initiate command to send email to user after user request is canceled.

Test Output:

The specified active service request is suspended, terminated or a previously suspended service request is resumed. DIM log contains an entry for each successful function. Email is also sent to user and received by user upon cancellation of user request.

Success Criteria:

This test is deemed successful when previously suspended service request are resume, active service request are either terminated or suspended. Email is also sent to user after request cancellation.

L3 Requirements:

IMS-0560#B, IMS-0575#B, IMS-0140#B.

L4 Requirements:

S-DMS-10720, S-DMS-10730, S-DMS-10740, S-DMS-10990.

4.2.4.5.3 Test Case 3: DIM Service Request Reuse Test (T231-42.02.03)

This test verifies the testers ability to initiate, send, report and save the results of a service request for later reuse. After a service request has been carried out, the result is stored into a file for later. This test also verifies the capability to report status of service request submitted by the DIM. This test case demonstrates the capability to retrieve status of service requests that are visible to the DIM.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCI CI, DESKTI CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Inputs includes the user intimating the request by clicking on the status of service request established by DIM object. Also initiate command to save results of a service request.

Test Output:

Outputs include information regarding the status of service requests. Service requests results are stored into a file for later reuse. Log file is updated.

Success Criteria:

This test is deemed successful if the status of the retrieval request is returned to the user and tester is able to store the result onto a file for later reuse.

L3 Requirements:

IMS-1300#B, IMS-0210#B, IMS-0230#B, IMS-0560#B, IMS-0575#B.

L4 Requirements:

S-DMS-10140, S-DMS-10320, S-DMS-10330, S-DMS-10340, S-DMS-10700.

4.2.4.5.4 Test Case 4: DIM Result Set Test (T231-42.02.04)

This test verifies the testers ability to view current result set of a search request.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Initiate command to view the current result set of a search query.

Test Output:

Current result set is displayed. Log file is updated.

Success Criteria:

This test is deemed successful when the current result set is displayed with the most current information.

L3 Requirements:

IMS-560#B, IMS-0575#B.

L4 Requirements:

S-DMS-10710.

4.2.4.5.5 Test Case 5: DIM Resource Estimation (T231-42.02.05)

This test demonstrates the capability to estimate the resources required to execute a pending service. Resources needed by DIM will be estimated based upon the size and complexity of the pending service.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

From the user interface. Select option to estimate resource required to execute a service.

Test Output:

Estimated resources are automatically chosen

Success Criteria:

This test is deemed successful when the estimated resources are chosen for the selected pending service

L3 Requirements:

IMS-0560#B, IMS-0575#B.

L4 Requirements:

S-DMS-10750.

4.2.4.5.6 Test Case 6: RMA Performance Test (T231-42.02.06)

This test verifies that DIM, Data dictionary and LIM will be available 24 hours a day, 7 days a week within the constraints of RMA requirements.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.

- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

LoadRunner tool is ran against software to check RMA functions.

Test Output:

RMA statistics information

Success Criteria:

RMA requirements are met.

L3 Requirements:

IMS-0010#B.

L4 Requirements:

S-DMS-10345, S-DMS-20695, S-DMS-00565.

4.2.4.5.7 Test Case 7: DIM Status Report to SMC (T231-42.02.07)

This test verifies the capability to for the DIM to provide status of maintenance, logistics, training, integration, testing and simulation to the SMC. This test case demonstrates the capability to retrieve status of a functional area.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Inputs includes the user intimating the request by clicking on the status of integration, simulation or testing, maintenance, logistics, and training object.

Test Output:

Outputs include information regarding the status integration, simulation or testing, maintenance, logistics, and training.

Success Criteria:

This test is deemed successful if the status of the retrieval request is returned to the user for maintenance, logistics, training, integration, testing and simulation status to the SMC.

L3 Requirements:

IMS-1640#B.

L4 Requirements:

S-DMS-10350, S-DMS-10360, S-DMS-10370, S-DMS-10380.

4.2.4.5.8 Test Case 8: Directives from SMC (T231-42.02.08)

The following tests verifies the capability for the DIM to receive directives from SMC. Such directives include maintenance, configuration management, logistics management, fault, security, training and testing and simulation directives.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

External interface with SMC. Inputs includes directives sent from SMC to perform a specified task.

Test Output:

Output include the all specified directives received by the DIM and acted upon accordingly.

Success Criteria:

This test is deemed successful when the all specified directives are received by the DIM and the directives is carried out. Such directives include maintenance, configuration management, logistics management, fault, security, training and testing and simulation directives.

L3 Requirements:

IMS-1630#B, SDPS0015#B

L4 Requirements:

S-DMS-10390, S-DMS-10400, S-DMS-10410, S-DMS-10420, S-DMS-10430,
S-DMS-10440, S-DMS-10450.

4.2.4.5.9 Test Case 9: DIM Data Management Collection (T231-42.02.09)

The following tests verifies the capability for the DIM to collect management data for data review purposes and data tracking. Those management data include accountability, performance, security, scheduling, configuration and accounting.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI.
- Data: Schema information, package information request, search request, search results, Data Dictionary Service Database
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select fault management data.

Test Output:

Output of specified management data will be displayed which includes accountability, performance, security, scheduling, configuration and accounting.

Success Criteria:

This test is deemed successful when the all specified management data are for accountability, performance, security, scheduling, configuration and accounting are displayed.

L3 Requirements:

IMS-1620#B, IMS-1760#B, IMS-1660#B.

L4 Requirements:

S-DMS-10530, S-DMS-10540, S-DMS-10550, S-DMS-10560, S-DMS-10570,

S-DMS-10580, S-DMS-10590

4.2.4.6 Enhanced Data Dictionary Thread IIA

The objectives of the enhanced data dictionary thread II is to provide access to database containing information about data via data dictionary server. Also to provide capabilities for manipulating data and schema of the data dictionary. The following testing will be performed to demonstrate the data dictionary's capabilities:

- ï Access information in the data dictionary
- ï Manipulate (add, modify and delete) data defined in the data dictionary
- ï System does not accept and attempt to add an invalid to the data dictionary
- ï Change the schema of the data dictionary
- ï Add and delete of fields defined in the data dictionary
- ï Existing fields within the data dictionary can not be modified
- ï Access data that is not contained in the data dictionary to verify the system provides a response to the requester in this situation

4.2.4.6.1 Test Case 1: DD Entry Manipulation Test (T231-51.02.01)

This test verifies the capability of adding, deleting, updating, retrieving information to the Data Dictionary through batch methods and through interactive methods.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Server Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system as an administrator and invoke the data dictionary GUI. Invoke a batch job from the application for administration of the DDS to add, delete, update and retrieve a field (i.e., employee phone numbers) to the schema of the DD.

Test Output:

The batch job will add, delete, update and retrieve the information to the data dictionary. Administration log contains an entry for the change to the data dictionary schema.

Success Criteria:

The added field, updated field, deleted and retrieved field are is shown on the log file as an added, updated, deleted and retrieved data entry.

L3 Requirements:

IMS-0210#B, IMS-0240#B, IMS-0260#B, IMS-0320#B, IMS-0250#B

L4 Requirements:

S-DMS-20530, S-DMS-20540, S-DMS-20550, S-DMS-20560, S-DMS-20570, S-DMS-20580, S-DMS-20590, S-DMS-20600

4.2.4.6.2 Test Case 2: DD Management Data Collection Test (T231-51.02.02)

This test verifies the capability to collect management data such as fault, Configuration Management (CM), accountability and scheduling for data review purposes and data tracking.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log on to the ECS system as an administrator and invoke the GUI for data dictionary tool. Go to the view that has all the management data retrieval list. Select fault management data, CM data, accountability management data and scheduling management data.

Test Output:

Output of all management data will be displayed.

Expected Results:

All the management data (fault, CM, accountability and scheduling) are displayed.

L3 Requirements:

IMS-1620#B, IMS-1760#B, IMS-1660#B

L4 Requirements:

S-DMS-20660, S-DMS-20820, S-DMS-20830, S-DMS-20840, S-DMS-20850, S-DMS-20860, S-DMS-20835.

4.2.4.6.3 Test Case 3: DD Status Report to SMC Test (T231-51.02.03)

This test verifies the capability of the data dictionary to provide status of testing, integration, simulation, maintenance, logistics and training to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know any of these status, a user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system and invoke the GUI for data dictionary tool. Input includes the user intimating the request by clicking on the status of testing, integration, simulation, maintenance, logistics and training object.

Test Output:

Output includes information regarding the status of testing, integration, simulation, maintenance, logistics and training.

Success Criteria:

This test is deemed successful if the status of the retrieval request is returned to the user.

L3 Requirements:

IMS-1640#B

L4 Requirements:

S-DMS-20700, S-DMS-20710, S-DMS-20720, S-DMS-20730

4.2.4.6.4 Test Case 4: Directives from SMC (DD) (T231-51.02.04)

This test verifies the capability of the data dictionary to receive directives from SMC. Such directives include maintenance, configuration management, logistics management, fault, security, training, testing and simulation directives.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Server Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system and invoke the GUI for data dictionary tool. External interface with SMC. (interface may be simulated or stubbed). Inputs includes maintenance, configuration management, logistics management, fault, security, training, testing and simulation directives.

Test Output:

Output includes maintenance, configuration management, logistics management, fault, security, training, testing and simulation directives received by the data dictionary and acted upon accordingly.

Success Criteria:

This test is deemed successful when the maintenance, configuration management, logistics management, fault, security, training, testing and simulation directive is received by the Data dictionary and the directive is carried out.

L3 Requirements:

IMS-1630#B, SDPS-0015#B

L4 Requirements:

S-DMS-20735, S-DMS-20740, S-DMS-20750, S-DMS-20760, S-DMS-20770, S-DMS-20780, S-DMS-20790

4.2.4.6.5 Test case 5: HTML3 Documents Test (T231-51.02.05)

This test verifies that the user can create documents in HTML3 format.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool

- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system and invoke the GUI for data dictionary tool. Create documents in HTML3 format. Save documents.

Test Output:

Documents saved in HTML3 format.

Success Criteria:

The user can successfully create and view the document in HTML3 format.

L3 Requirements:

IMS-0150#B, IMS-0535#B

L4 Requirements:

S-DMS-20360

4.2.4.6.6 Test Case 6: Manipulate DD Fields Test (T231-51.02.06)

This test verifies the capabilities of DD for adding, deleting and modifying to/from the DD schema. In addition it verifies the updating of the duplicated database located at the multiple sites.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system and invoke the GUI for data dictionary tool. Add, delete, and modify the field in DD schema. Then view these changes through the duplicated database located at various sites. Note: Synchronization of changes to the fields on multiple sites is difficult because

each site can not obtain immediate information on the action currently being carried out on other sites.

Test Output:

The field will be added, deleted and modified in the existing DD schema. The data bases will also update these changes at multiple sites. Administration log will contain all these changes to schema.

Success Criteria:

- The added field in DD schema will be accessible for data entry from all sites. No data exist in a new data field.
- The deleted field will no longer be accessible from various sites and will generate error message if a user attempt to access it.
- The modified field will be accessible for data entry from various sites.
- Changes to DD schema will be reflected correctly in the administration log.

L3 Requirements:

IMS-0210#B, IMS-0320#B, IMS-0240#B, IMS-0250#B, IMS-0220#B

L4 Requirements:

S-DMS-20190, S-DMS-20200, S-DMS-20230, S-DMS-20250

4.2.4.6.7 Test Case 7: View Standard Products (T231-51.02.07)

This test demonstrates that the standard product related metadata contains

- Keywords and glossary from investigator.
- keywords, glossary for cross-product and cross-directory referencing

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Log onto the ECS system. Invoke the GUI for data dictionary tool and enter several keywords, synonyms and glossary.

Output:

Entries made during any DD activity are displayed.

Success Criteria:

Log contains DD activities.

L3 Requirements:

IMS-0320#B

L4 Requirements:

S-DMS-20620, S-DMS 20630

4.2.4.7 Enhanced Data Dictionary Thread IIB

The objectives of the Enhanced Data Dictionary thread IIB is to provide access to database containing information about data via data dictionary server. Also to provide capabilities for manipulating data and schema of the data dictionary. The following testing will be performed to demonstrate the data dictionary's capabilities:

- Access data that is not contained in the data dictionary to verify the system provides a response to the requester in this situation

4.2.4.7.1 Test Case 1: Data Access Control Test (T231-52.02.01)

This test verifies the access control functionalities:

- Access to data definitions (i.e. Earth science data types and service descriptions, core metadata attributes definitions, valid values, synonyms for valid values, product specific data).
- Identification of the user on behalf a service request is issued as the bases for access control decisions
- Read write, update and delete, singly or in combination, based on user access privileges
- Read write, update and delete, singly or in combination, based on data ownership,
- Read write, update and delete, singly or in combination, based on data types.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Log onto the ECS system. Invoke the GUI for data dictionary tool and select options to for data definitions (i.e., Earth science data types and service descriptions, core metadata attributes definitions, valid values, synonyms for valid values, product specific data).

Select options to submit an authorized service request.

Select options to read, write, update and delete data (singly or in combinations) for a user with and without privileges.

Select options to read, write, update and delete (singly or in combinations) for a user with and without data ownership.

Select options to read, write, update and delete, based on data types.

Output:

A user is able to access data dictionary definitions. A user with privileges can manipulate restricted data. A user without privileges can not manipulate restricted data. A user with an ownership of the data can manipulate those data. A user without an ownership of the data can not manipulate those data. Event log contains entries of logon. Data access log is updated.

Success Criteria:

A user is able to access data dictionary definitions. User with privileges will be presented with a tool on the desktop for accessing the data. User without privileges will not be presented with a tool on the desktop for accessing the data. User with an ownership of the data will be presented with a tool on desktop for manipulating those data. User without an ownership of the data will not be presented with a tool on desktop for manipulating those data. Event log contains entries of logon. Data access log is updated.

L3 Requirements:

IMS-0210#B, IMS-0230#B, IMS-0260#B, IMS-0320#B, IMS-0350#B

L4 Requirements:

S-DMS-10600, S-DMS-20005, S-DMS-20220, S-DMS-20670, S-DMS 20610, S-DMS 20680, S-DMS 20690, S-DMS 20210

4.2.4.7.2 Test Case 2: Data Dictionary Log Test (T231-52.02.02)

This test verifies that the following logging functionalities::

- Log the initiation of all service requests
- Log the startup of data dictionary servers
- Log the shutdown of data dictionary servers

- Log the activation of service requests from queue
- Log the successful completion of a service request and the status, returned to the client.
- Log the initiation of a session
- Log the suspension of a session
- Log the resumption of the previously suspended session.
- Log the termination of a session.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Server Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

After successful completing the test case number T216-5.02.01, all log files will be examined for verifying the logging functionalities.

Output:

The logging files generated in test cases number T216-5.02.01.

Success Criteria:

The data dictionary log to MSS should reflect all activities as listed in the test objective.

L3 Requirements:

IMS-1640#B, IMS-1650#B, IMS-1660#B,

L4 Requirements:

S-DMS-20865, S-DMS-20866, S-DMS-20867, S-DMS-20868, S-DMS-20869, S-DMS-20870, S-DMS-20871, S-DMS-20872, and S-DMS 20873

4.2.4.7.3 Test Case 3: DD Summary Report Test (T231-52.02.03)

This test verifies the following reporting functionalities:

- Capability to generate daily data dictionary summary report
- Capability to generate data dictionary performance summary report.
- Create utilization reports

- Distribute utilization reports on a periodic basis.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Server Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Input:

Run test case number T216-1.01.05 through T216-1.01.07. Select options for daily summary reports, performance summary reports and utilization reports. Distribute these reports on a periodic basis. Generate a hard copy of each report.

Output:

The following summary report files will be generated:

- Daily summary report
- Performance summary report
- Utilization summary report

Success Criteria:

- The daily summary report reflects all data dictionary activities of the day.
- The performance summary report contains performance of the system (i.e., disk, memory, CPU and I/O).
- The utilization summary report contains the resources used in executing the data dictionary operations.

L3 Requirements:

IMS-1680#B, IMS-1690#B, IMS-17000#B,

L4 Requirements:

S-DMS-20355, S-DMS-20356, S-DMS-20795, S-DMS-20796

4.2.4.8 Gateway Thread II

The objective of the V0 gateway is to provide a bi-directional gateway between ECS, National Oceanic and Atmospheric Administration (NOAA) Satellite Active Archives (SAA) and the Version 0 (V0) systems. This thread enables V0 IMS users to query ECS database, and enables users of the ECS Client Subsystem to query V0 database.

4.2.4.8.1 Test Case 1: Gateway Single Session Test (T231-60.02.01)

This test verifies the following capabilities of the gateway:

- Establish a session as the context for a series of service requests
- Suspend an on-going session
- Resume a previously suspended session
- Terminate an established session
- Report the status of established session

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system. Using a user interface, request the gateway to establish a session. Suspend an on-going session. Resume the previously suspended session. Terminate the established session.

Test Output:

- The gateway accepts the user's requests to establish a session.
- The gateway accepts the user's requests to suspend an on-going session.
- The gateway accepts the user's requests to resume the previously suspended session.
- The gateway accepts the user's requests to terminate the established session.
- The gateway generates the status report of the established session.
- The gateway updates the log.

Success Criteria:

- The gateway successfully establishes the session,
- The gateway successfully suspends the on-going session.
- The gateway successfully resumes the previously suspended session.
- The gateway successfully accepts the user's requests to terminate the established session.

- The gateway generates the valid status report.
- The gateway log contains a valid entry for each request.

L3 Requirements:

IMS-0560#B, IMS-0140#B

L4 Requirements:

S-DMS-30060, S-DMS-30070, S-DMS-30080, S-DMS-30090, S-DMS-30860

4.2.4.8.2 Test Case 2: Gateway Multiple Session Test (T231-60.02.02)

This test verifies the following capabilities of the gateway:

- Automatically suspend sessions that have been inactive for a specified time
- Support multiple concurrent sessions
- Support multiple service requests within a session
- Suspend all active sessions
- Resume all suspended sessions
- Terminate all active or suspended sessions
- Report the status of established sessions

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Server Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system. Using a user interface, request the gateway to establish a few sessions. Suspend all on-going sessions. Resume the suspended sessions. Terminate the active sessions.

Test Output:

- The gateway accepts the user's requests to establish multiple sessions, suspend all on-going sessions, resume all suspended sessions and terminate all sessions.
- The gateway generates the status report of established sessions.
- The gateway updates the log.

Success Criteria:

- The gateway successfully establishes multiple sessions, suspends all on-going sessions, resumes all suspended sessions and terminates all active sessions.
- The gateway generates the valid status report.
- The gateway log contains a valid entry for each request.

L3 Requirements:

IMS-0140#B

L4 Requirements:

S-DMS-30870, S-DMS-30960, S-DMS-30970, S-DMS-30980, S-DMS-30890, S-DMS-30900, S-DMS-30860

4.2.4.8.3 Test Case 3: Time-out Period for Inactive Session Test (T231-60.02.03)

This test verifies the gateway capability to specify a "time-out" period for inactive sessions. This test is to confirm that the specified time-out is accurate when implemented.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system. Bring up the sessions configuration menu to change the time-out period for inactivity. Wait for the time-out period.

Test Output:

- The gateway times out the session.
- The gateway updates the log.

Success Criteria:

- The gateway successfully times-out the appropriate session at the specified time.
- The gateway log contains the valid entry for the time-out change request.

L3 Requirements:

IMS-0140#B

L4 Requirements:

S-DMS-30950

4.2.4.8.4 Test Case 4: Notification Via E-mail Test (T231-60.02.04)

This test verifies the gateway capability to send notification to users via e-mail whenever a user cancels the session.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Server Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system. Enter a user's request to establish a session. Cancel the request for establishing the session.

Test Output:

- The gateway does not establish the session.
- The gateway updates the log.

Success Criteria:

- The gateway successfully sends the e-mail notification to an appropriate user upon canceling the request for session.
- The gateway log contains the valid entry for canceling the request and sending the e-mail notification.

L3 Requirements:

IMS-0140#B

L4 Requirements:

S-DMS-30990

4.2.4.8.5 Test Case 5: Restore Sessions After Interruption (T231-60.02.05)

This test verifies the gateway capability to restore sessions after interruptions.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Log onto the ECS system. Enter a user's request to establish a session. Interrupt the system and enter a command to restore the session.

Test Output:

- The gateway accepts the command to restore the session.
- The gateway updates the log.

Success Criteria:

- The gateway successfully restores the appropriate session.
- The gateway log contains the valid entry for establishing, interruption and restoring the session.

L3 Requirements:

IMS-0120#B

L4 Requirements:

S-DMS-31000

4.2.4.8.6 Test Case 6: Gateway Single Service Requests Test (T231-60.02.06)

This test verifies the following gateway capabilities:

This test verifies the gateway capability to

- Terminate the processing of active or suspended service requests
- Resume the processing of active or suspended service requests.
- Estimate the resources required for executing the pending service requests
- Report the status of these service requests
- Save results of service requests for later use. Note: A tester will run the above (1 through 11) tests and save the results into a file.

Test Configuration:

- Hardware: Workstation, Data Dictionary server, HTTP server, Common Gateway Interface, and Data Dictionary tool
- Software: Desktop manager, WWW browser and Client application
- Data: Data Server Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

- Log onto the ECS system. Enter the following requests:
- Suspend processing of an active service request.
- Resume the processing of any particular suspended service request
- Terminate the active and suspended processing.
- Request a status of each service request.
- Request to save results of the service requests in the above test (1 through 11)

Test Output:

- The gateway will automatically terminate, suspend and resume the processing upon requests.
- The gateway will generate the status of each service request.
- The gateway will estimate the resources required for executing the pending requests.
- The gateway will store the results into a file for later reuse.
- The gateway updates the log.

Success Criteria:

- The gateways successfully terminates the active and suspended processing.
- The gateway successfully suspends the active processing.
- The gateway successfully resumes the suspended processing.
- The gateway generates the correct status of each service request.
- The gateway log contains the valid entry for the above activities.
- The gateway successfully saves the result into a file for later use.
- The gateway log contains the valid entry for saving the result.

L3 Requirements:

IMS-0550#B, IMS-0560#B, IMS-1300#B, IMS-0190#B and IMS0560#B

L4 Requirements:

S-DMS-30130, S-DMS-30140, S-DMS-30150, S-DMS-30260, S-DMS-30110, S-DMS-30120

4.2.4.9 Data Access Service 2

This build will verify all the Local Information Manager 2 functions such as Access Control, session establishment, result sets, summary and status reports. It will also verify Distributed Information Manager 2 tests such as subscription changes, partial results integration, cross DAAC data granule search, Instrument inventory search and distributed query plan. Enhanced Data Dictionary 2 functions such as verification of valid values, geophysical parameter functions and sending and accepting request will be verified. Enhanced data services such as online full and incremental backups, manual and automatic recoveries, import and export functions, and setting thresholds will all be verified. Gateway functions using V0 protocols such as inventory searches, browse request, product request, guide query and event notifications will be verified.

4.2.4.9.1 Test Case 1: Verify LIM 2 functions (B231.02.01)

This test will show that the Local Information Manager 2 functions such as LIM schema, database replications, partial results integration, data granule search by science disciplines, building site query plan, service request and resource estimations have all been verified.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Review and analyze results of previous test pertaining to Local Information Manager 2 to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Local Information Manager 2 work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed in Local Information Manager 2 thread have been successfully tested and verified. Such verifications include reports generated with all the utilization data. Report is retrieved and distributed to specified location. Receipt of report by

the other location is verified by confirming receipt. Report is also stored onto electronic media. Operation and performance reports generated. The search request is aborted as per user as well as in a processing failure. Upon restart of the LIM, the transaction is continued without loss of data. This can be verified by running another separate transaction without restarting the LIM and compare those results. Session are established, suspended, resumed and terminated. Multiple sessions are established, all active sessions are suspended, any or all sessions previously suspended are resumed and any or all active or suspended sessions are terminated. The specified session with the time-out period is automatically suspended and the interrupted session is restored.

This test is considered successful if the system allows authorized users to perform the restricted operations. Non-authorized users must not be capable of accessing the restricted operations. An error message, stating access to the restricted operation is denied, should appear on the users screen each time a non-authorized user attempts to perform a restricted operation. Status of the retrieval request is returned to the user. Such status include maintenance, logistics, training, integration, testing and simulation. Specified directives are received by the LIM and the directives is carried out. Such directives are maintenance, configuration management, logistics management, fault, security, training and testing and simulation directives. Specified management data are displayed. Such management data include security, configuration management, accounting, accountability, performance and configuration information.

L3 Requirements:

IMS-1680#B, IMS-1690#B, IMS-1700#B, IMS-0240#B, IMS-0250#B, IMS-0665#B, IMS-1520#B, IMS-0560#B, IMS-0140#B, IMS-0120#B, IMS-1660#B, IMS-1650#B, IMS-1640#B, IMS-0210#B, IMS-0230#B, EOSD2400#B, IMS-0260#B, IMS-0350#B, IMS-1780#B, IMS-1785#B, IMS-1630#B, SDPS0015#B, EOSD2400#B, IMS-1620#B.

L4 Requirements:

S-DMS-00705, S-DMS-00706, S-DMS-00605, S-DMS-00606, S-DMS-00560, S-DMS-00240, S-DMS-00470, S-DMS-00060, S-DMS-00070, S-DMS-00080, S-DMS-00090, S-DMS-01060, S-DMS-00960, S-DMS-00890, S-DMS-00970, S-DMS-00980, S-DMS-01000, S-DMS-00860, S-DMS-00250, S-DMS-00915, S-DMS-00920, S-DMS-00930, S-DMS-00940, S-DMS-01010, S-DMS-01020, S-DMS-01030, S-DMS-01040, S-DMS-00912, S-DMS-00913, S-DMS-01011, S-DMS-01012, S-DMS-01013, S-DMS-01014, S-DMS-01015, S-DMS-01016, S-DMS-01017, S-DMS-00190, S-DMS-00200, S-DMS-00540, S-DMS-00120, S-DMS-00480, S-DMS-00490, S-DMS-00500, S-DMS-00510, S-DMS-00570, S-DMS-00580, S-DMS-00590, S-DMS-00600, S-DMS-00610, S-DMS-00620, S-DMS-00630, S-DMS-00640, S-DMS-00650, S-DMS-00660, S-DMS-00670, S-DMS-01080, S-DMS-00530, S-DMS-00690, S-DMS-00700, S-DMS-00710, S-DMS-00720, S-DMS-00730.

4.2.4.9.2 Test Case 2: Verify DIM 2 functions (B231.02.02)

This test will show that the Distributed Information Manager 2 tests such as subscription changes, partial results integration, cross DAAC data granule search, Instrument inventory search and distributed query plan have all been verified.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Review and analyze results of previous test pertaining to Distributed Information Manager 2 to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Distributed Information Manager 2 work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed in Distributed Information Manager 2 thread have been successfully tested and verified. Verification includes DIM database containing the updated information of the new data and field changes. The administrative log will contain changes such as additions, deletions or modifications to the DIM schema. Only data available for the DAAC under test is provided. Received schemata can be viewed, union of schema is created, local LIM schema received and federated schema is revised. The distributed query plan will be saved after client disconnection. This test is deemed successful after client reconnection to the DIM and is still able to retrieve the results of the distributed query plan. Schema entry available from the DIM database is provided. Establish a session as the context for a series of service requests. Suspend ongoing session. Resume a suspended session. Terminate an established client session. Terminate sessions at server which are a part of that session.

This test is deemed successful upon successful completion of search request and adequate search results are obtained based on the search request for search conditions using search expressions in combination with boolean and relational operators, attribute names and exact word matches, phrase matches, character sets, wildcards construct, and minimum and maximum range for numeric and data/time attributes associated with non-geographic metadata. Multiple sessions are established, all active sessions are suspended, any or all sessions previously suspended are resumed and any or all active or suspended sessions are terminated. The specified session with the time-out period is automatically suspended and the interrupted session is restored.

L3 Requirements:

IMS-0240#B, IMS-0250#B, IMS-0355#B, EOSD5100#B, IMS-0550#B, IMS-0560#B, IMS-0575#B, IMS-0220#B, IMS-0665#B, IMS-0140#B, IMS-1660#B, IMS-1650#B, IMS-1665#B, IMS-1640#B, IMS-1520#B, IMS-0630#B, IMS-0650#B, IMS-0140#B, IMS-0120#B.

L4 Requirements:

S-DMS-10240, S-DMS-10090, S-DMS-10650, S-DMS-10150, S-DMS-10160, S-DMS-10170, S-DMS-10180, S-DMS-10250, S-DMS-10130, S-DMS-10915, S-DMS-10920, S-DMS-10930, S-DMS-10940, S-DMS-11010, S-DMS-11020, S-DMS-11030, S-DMS-11040, S-DMS-10595, S-DMS-10596, S-DMS-11011, S-DMS-11012, S-DMS-11013, S-DMS-11014, S-DMS-11015, S-DMS-11016, S-DMS-11017, S-DMS-10060, S-DMS-10070, S-DMS-10300, S-DMS-11060, S-DMS-10660, S-DMS-10670, S-DMS-10680, S-DMS-10690, S-DMS-10765, S-DMS-10770, S-DMS-10771, S-DMS-10772, S-DMS-10773, S-DMS-10774, S-DMS-10775, S-DMS-10776, S-DMS-10960, S-DMS-10890, S-DMS-10970, S-DMS-10980, S-DMS-11000, S-DMS-10860.

4.2.4.9.3 Test Case 3: Verify Enhanced DD 2 functions (B231.02.03)

This test will show that the Enhanced Data Dictionary 2 tests such valid values, geophysical parameter functions and sending and accepting request have all been verified

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Review and analyze results of previous test pertaining to Enhanced Data Dictionary 2 to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Enhanced Data Dictionary 2 work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed Enhanced Data Dictionary 2 thread have been successfully tested and verified. Verification includes added field, updated field, deleted and retrieved field are is shown on the log file as an added, updated, deleted and retrieved data entry. All the management data (fault, CM, accountability and scheduling) are displayed. Maintenance, configuration management, logistics management, fault, security, training, testing and simulation directive is received by the Data dictionary and the directive is carried out.

The added field in DD schema will be accessible for data entry from all sites. No data exist in a new data field. The deleted field will no longer be accessible from various sites and will generate error message if a user attempt to access it. The modified field will be accessible for data entry from various sites. Changes to DD schema will be reflected correctly in the administration log. A user is able to access data dictionary definitions. User with privileges will be presented with a tool on the desktop for accessing the data. User without privileges will not be presented with a tool on the desktop for accessing the data. User with an ownership of the data will be presented with a tool on desktop for manipulating those data. User without an ownership of the data will not be presented with a tool on desktop for manipulating those data. Event log contains entries of logon. Data access log is updated.

The daily summary report reflects all data dictionary activities of the day. The performance summary report contains performance of the system (i.e., disk, memory, CPU and I/O). The utilization summary report contains the resources used in executing the data dictionary operations.

L3 Requirements:

IMS-0210#B, IMS-0240#B, IMS-0260#B, IMS-0320#B, IMS-0250#B, IMS-1620#B, IMS-1760#B, IMS-1660#B, IMS-0220#B, IMS-1640#B, IMS-1630#B, SDPS-0015#B, IMS-0150#B, IMS-0535#B, IMS-0230#B, IMS-0260#B, IMS-0350#B, IMS-1650#B, IMS-1680#B, IMS-1690#B, IMS-1700#B.

L4 Requirements:

S-DMS-20530, S-DMS-20540, S-DMS-20550, S-DMS-20560, S-DMS-20570, S-DMS-20580, S-DMS-20590, S-DMS-20600, S-DMS-20660, S-DMS-20820, S-DMS-20830, S-DMS-20840, S-DMS-20850, S-DMS-20860, S-DMS-20835, S-DMS-20700, S-DMS-20710, S-DMS-20720, S-DMS-20730, S-DMS-20735, S-DMS-20740, S-DMS-20750, S-DMS-20760, S-DMS-20770, S-DMS-20780, S-DMS-20790, S-DMS-20360, S-DMS-20190, S-DMS-20200, S-DMS-20230, S-DMS-20250, S-DMS-20620, S-DMS 20630, S-DMS-10600, S-DMS-20005, S-DMS-20220, S-DMS-20670, S-DMS 20610, S-DMS 20680, S-DMS 20690, S-DMS 20210, S-DMS-20865, S-DMS-20866, S-DMS-20867, S-DMS-20868, S-DMS-20869, S-DMS-20870, S-DMS-20871, S-DMS-20872, and S-DMS 20873, S-DMS-20355, S-DMS-20795, S-DMS-20796

4.2.4.9.4 Test Case 4: Verify Enhanced Advertising Service Functions (B231.02.04)

This test will show that the Enhanced Advertising Service function such as online full and incremental backups, manual and automatic recoveries, import and export functions, and setting thresholds have all been verified.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.
- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.

- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Review and analyze results of previous test pertaining Enhanced Advertising Service function to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Enhanced Advertising Service function work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed Enhanced Advertising Service functions have been successfully tested and verified. Verification includes user able to create, edit and delete advertising information pertaining to the advertising service.

User able to collecting accounting management data, providing advertisement that describe science processing library holdings, provide logistics and maintenance status to SMC, display SMC directives, provide current mode on request, provide MSS configuration information such as expected approval time.

This test is considered successful when the subscriptions are added, retrieved and subscribed events are registered.

L3 Requirements:

IMS-0030#B, IMS-0220#B, IMS-0360#B, IMS-0390#B, IMS-0270#B, IMS-1630#B, IMS-1640#B, IMS-1660#B, IMS-0630#B, IMS-0650#B, IMS-1620#B

L4 Requirements:

S-DMS-00750, S-IOS-00516, S-IOS-00517, S-IOS-00590, S-IOS-00940, S-IOS-00950, S-IOS-00960, S-IOS-00640, S-IOS-00670, S-IOS-00680.

4.2.4.9.5 Test Case 5: Verify Gateway 2 functions (B231.02.05)

This test will show that Gateway 2 functions such as inventory searches, browse request, product request, guide query and event notifications have all been verified.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server.

- Software: Client Library, Request processing, Mapping Layer, LIMGR CI, Advertising Client Tool, Data Server Interface.
- Data: schema information, package information request, search request, search results
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request, XRunner, LoadRunner

Input:

Review and analyze results of previous test pertaining Gateway 2 functions to ensure all relevant test has been performed and is working appropriately.

Output:

All reviewed testcases from Gateway 2 functions work accordingly. All testcases have been appropriately verified.

Success Criteria:

This test is deemed successful when all test performed Gateway 2 functions been successfully tested and verified. Verification includes gateway successfully establishes the session, gateway successfully suspends the on-going session, gateway successfully resumes the previously suspended session, gateway successfully accepts the user's requests to terminate the established session, gateway generates the valid status report, gateway log contains a valid entry for each request, gateway successfully establishes multiple sessions, suspends all on-going sessions, resumes all suspended sessions and terminates all active sessions.

The gateway generates the valid status report. The gateway log contains a valid entry for each request. The gateway successfully times-out the appropriate session at the specified time. The gateway log contains the valid entry for the time-out change request. The gateway successfully sends the e-mail notification to an appropriate user upon canceling the request for session. The gateway log contains the valid entry for canceling the request and sending the e-mail notification. The gateway successfully restores the appropriate session.

The gateway log contains the valid entry for establishing, interruption and restoring the session. The gateways successfully terminates the active and suspended processing. The gateway successfully suspends the active processing. The gateway successfully resumes the suspended processing. The gateway generates the correct status of each service request. The gateway log contains the valid entry for the above activities. The gateway successfully saves the result into a file for later use. The gateway log contains the valid entry for saving the result.

L3 Requirements:

IMS-0140#B, IMS-0120#B, IMS-0550#B, IMS-0560#B, IMS-1300#B, IMS-0190#B.

L4 Requirements:

S-DMS-30060, S-DMS-30070, S-DMS-30080, S-DMS-30090, S-DMS-30860, S-DMS-30870, S-DMS-30960, S-DMS-30970, S-DMS-30980, S-DMS-30890, S-DMS-30900, S-DMS-30860,

S-DMS-30950, S-DMS-30990, S-DMS-31000, S-DMS-30130, S-DMS-30140, S-DMS-30150, S-DMS-30260, S-DMS-30110, S-DMS-30120

4.2.4.10 Enhanced Parameter Search II Thread I

This thread will test parameter search functions such as coincident search, search and view products processing, data dictionary search and ECS query language test. This test will include users capability to compose searches across multiple data sets for coincident occurrences of data in space, time, or any other search-able metadata attribute.

4.2.4.10.1 Test Case 1: Coincident Search Test (T232-10.02.01)

This test verifies that searches can be performed by users to compose searches across multiple data sets for coincident occurrences of data in space, time, or any other searchable metadata attribute.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Search request compose searches across multiple data sets for coincident occurrences of data in space, time, or any other searchable metadata attribute.

Test Output:

Search result package contains compose searches accross multiple data sets for coincident occurrences of data in space, time, or any other searchable metadata attribute.

Success Criteria:

This test is considered successful when the search result package contains compose searches across multiple data sets for coincident occurrences of data in space, time, or any other searchable metadata attribute.

L3 Requirements:

IMS-0610#B, IMS-0640#B, IMS-0575#B, IMS-0650#B.

L4 Requirements:

S-CLS-10190.

4.2.4.10.2 Test Case 2: Search and view products processing (T232-10.02.02)

This test verifies the user ability to search and view a product processing history and science processing library holdings.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Enter search request and view a product processing history and science processing library holdings.

Test Output:

Search result package contains a product processing history and science processing library holdings.

Success Criteria:

This test is considered successful when the search result package contains a product processing history and science processing library holdings.

L3 Requirements:

IMS-0500#B, IMS-0545#B, EOSD5040#B, IMS-0270.

L4 Requirements:

S-CLS-10200, S-CLS-10210.

4.2.4.10.3 Test Case 3: Data Dictionary Search (T232-10.02.03)

This test demonstrates the ability of the ECS to search data dictionary information to obtain the precise definitions of terms used within ECS.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Enter search request to search data dictionary information to obtain the precise definitions of terms used within ECS.

Test Output:

Search result package contains data dictionary information obtained with precise definitions of terms used within ECS.

Success Criteria:

This test is considered successful when data dictionary information is obtained with precise definitions of terms used within ECS.

L3 Requirements:

EOSD5010#B, EOSD5060#B, IMS-0320#B, IMS-0500#B.

L4 Requirements:

S-CLS-10730.

4.2.4.10.4 Test Case 4: ECS Query Language Test (T232-10.02.04)

This test verifies that a users input search criteria is translated into ECS internal query language. This test will also support SQL syntax for queries on advertising.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Issue a search request. View internal query language syntax search criteria entered.

Test Output:

Search criteria is translated into ECS internal query language.

Success Criteria:

This test is considered successful when a users input search criteria is translated into ECS internal query language. This test will also support SQL syntax for queries on advertising

L3 Requirements:

IMS-0630#B, IMS-0650#B, IMS-0550#B, IMS-0560#B.

L4 Requirements:

S-CLS-10175, S-CLS-11290.

4.2.4.11 Distributed Search Request Thread II

Testing will be performed to verify that a user can perform a graphical directory searches. A graphical search can utilize a LIM or a data server based on the context. The test cases which follow, access data from a LIM and a data server respectively. In order to perform these test cases, the tester must have knowledge of datasets which reside in unique LIM and a unique data server in order to validate the test results. Testing will also be perform for standard product requests, subsetted, subsampled and summary products. Requesting of status function, search results, global granule searches and displaying of DARs, DAPs and their schedules.

4.2.4.11.1 Test Case 1: Graphical View Representation Test(T232-30.02.01)

This test demonstrates the ability of the ECS to graphically represent data availability for products versus time. And also to graphically view the temporal extent of data granules. Search criteria will be developed based on user scenarios. The criteria will be designed to search and represent the data availability in graphic form.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Search scenario based on available data. Select graphic option.

Test Output:

Data availability for products and time specified is displayed graphically. A graphic view of temporal extent of data granules is also displayed

Success Criteria:

This test is considered successful if the specified data available product and time are graphically displayed and a graphic view of temporal extent of data granules are also displayed.

L3 Requirements:

IMS-0690#B.

L4 Requirements:

S-CLS-13580, S-CLS-13590.

4.2.4.11.2 Test Case 2: Data Distribution Test (T232-30.02.02)

This test demonstrates the ability of to perform the following data distribution functions:

- Verify that data distribution requests contains requester identification, data types, data set identifier, data formats, distribution and media instructions, request priority, suggested earliest start time, and suggested latest completion time.
- Science users capability to obtain distribution request status for user-initiated distribution requests.
- Users capability to issue a data distribution status request for a previously submitted distribution request and receive distribution request status as a result.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data

- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Issue data distribution request. Obtain distribution request status.

Test Output:

Data distribution request is issued. Distribution request status of user initiated distribution request and data distribution status request for a previously submitted distribution request is also displayed.

Success Criteria:

This test is considered successful when the data distribution request is issued. Distribution request status of user initiated distribution request and data distribution status request for a previously submitted distribution request are also displayed.

L3 Requirements:

IMS-1310#B, IMS-0810#B.

L4 Requirements:

S-CLS-11060, S-CLS-14230, S-CLS-15830.

4.2.4.11.3 Test Case 3: Data Acquisition Test (T232-30.02.03)

This test demonstrates the ability for users to perform the following data acquisition function.

- Users ability to display data acquisition plans and schedules
- Users ability to view DAR generation information during the DAR planning and submittal process.
- Users ability to display data acquisition schedules as timelines.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Enter command to display data acquisition plans and schedules. Enter command to view DAR generation information.

Test Output:

Data acquisition plans and schedules are displayed. DAR generation information are also displayed.

Success Criteria:

This test is considered successful when the data acquisition plans and schedules are displayed. DAR generation information are also displayed during the DAR planning and submittal process.

L3 Requirements:

IMS-0500#B, IMS-0510#B, ASTER-0010#B, IMS-0280#B, IMS-1100#B.

L4 Requirements:

S-CLS-10870, S-CLS-13250, S-CLS-13840.

4.2.4.11.4 Test Case 4: Data Request Test (T232-30.02.04)

This test demonstrates the ability for users to perform the following functions:

- Users ability to issue data requests for data products that are generated on demand.
- Users ability to view the data requests recorded in the user session log.
- Users ability to retrieve any previously saved data requests parameters into a new data request, edit the parameters, save the modified parameters, and/or submit the new data requests.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Enter command to issue data requests for data products that are generated on demand. Enter command to view data requests recorded in the user session log. Enter command to retrieve any

previously saved data requests parameters into a new data request, edit the parameters, save the modified parameters, and/or submit the new data requests.

Test Output:

Data request for data products is issued. Data request is also displayed in the user session log. Previously saved data request is retrieved into a new data request, edited, saved and submitted.

Success Criteria:

This test is considered successful when the data request is issued and user is able to view data requests recorded in the user session log. The user will also retrieve any previously saved data requests parameters into a new data request, edit the parameters, save the modified parameters, and/or submit the new data requests.

L3 Requirements:

IMS-0925#B, IMS-1005#B, IMS-1300#B, IMS-0740#B.

L4 Requirements:

S-CLS-10260, S-CLS-13950, S-CLS-14030.

4.2.4.11.5 Test Case 5: Standard Product Request Test (T232-30.02.05)

This test verifies that a user capability to access standard product related to metadata to include keywords, synonyms, cross-product, cross-directory referencing and glossary from investigators. Data request based on results of searching the inventory core metadata attributes and inventory product specific metadata attributes will also be tested.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Data request based on the results of searching the inventory core metadata attributes. Access standard product related to metadata.

Test Output:

Search result package. Standard product includes keywords, synonyms, cross-product, cross-directory referencing and glossary from investigators.

Success Criteria:

This test is deemed successful when the standard product includes keywords, synonyms, cross-product, cross-directory referencing and glossary from investigators are returned and the data request based on the results of searching the inventory core metadata attributes are also returned.

L3 Requirements:

IMS-0340#B, IMS-0680#B, IMS-0770#B, IMS-0900#B, IMS-0910#B, IMS-0320#B.

L4 Requirements:

S-CLS-10220, S-CLS-14540, S-CLS-14550.

4.2.4.11.6 Test Case 6: Request subsetted, subsampled and summary product (T232-30.02.06)

This test verifies that a user can request subsetted, subsampled and summary products. The tester will have the capability to select certain subsetted information of a product, certain subsampled and summary of that particular product.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Perform request for subsetted, subsampled and summary products.

Test Output:

Search result package contains subsetted, subsampled and summary of that specified products.

Success Criteria:

This test is deemed successful when the search result package contains a subsetted, subsampled and summary of the specified products.

L3 Requirements:

IMS-0340#B, IMS-0700#B, IMS-0705#B.

L4 Requirements:

S-CLS-10240.

4.2.4.11.7 Test Case 7: Search result Test (T232-30.02.07)

This test verifies that a user can perform the following search result functions:

- Simultaneously view search results and product requests.
- Save results of search request.
- Retrieve saved search results, delete items from search result and save the modified result.
- Save selected portions of a search result.
- Combine search results.
- Request any of the services available for individual items in the output of a metadata search.

Test Configuration:

- Hardware: Workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Search request, save results of search request, simultaneously view search results and product requests, retrieve saved search results, delete items from search result and save the modified result, save selected portions of a search result and combine search results .

Test Output:

Search result package. Results of search request saved. Search results retrieved and items deleted from search result. Modified results are saved.

Success Criteria:

This test will be considered successful when a search result package is received. Results of search request saved. Search results retrieved and items deleted from search result. Modified results are saved.

L3 Requirements:

IMS-0940#B, IMS-0190#B, IMS-0570#B, IMS-0930#B.

L4 Requirements:

S-CLS-12530, S-CLS-13500, S-CLS-13510, S-CLS-13520, S-CLS-13530, S-CLS-12480.

4.2.4.11.8 Test Case 8: Request status Test (T232-30.02.08)

This test demonstrates the ability to request an update of status of a previously submitted search request, workbench poll status of a search request at a user selectable time interval and obtain data processing status during the processing of a request initiated by the user.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Request status for previously submitted search request, workbench poll status of a search request at a user selectable time interval and obtain data processing status during the processing of a request initiated by the user.

Test Output:

Status for previously submitted search request, workbench poll status of a search request at a user selectable time interval and obtain data processing status during the processing of a request initiated by the user are displayed.

Success Criteria:

This test is considered successful when the status of previously submitted search request, workbench poll status of a search request at a user selectable time interval and obtain data processing status during the processing of a request initiated by the user are displayed.

L3 Requirements:

IMS-0665#B, IMS-1300#B, IMS-1330#B.

L4 Requirements:

S-CLS-13730, S-CLS-13740, S-CLS-11040.

4.2.4.12 Search Services II (B232.02)

This search service build 2 will consist of verify all phase 2 parameter searches, distributed search request and spatial searches. Test parameter search functions such as coincident search, data dictionary search, ECS query language and product listing searches will be verified. Standard product request, subsetted, subsampled and summary product request will also be verified.

4.2.4.12.1 Test Case 1: Verify Parameter Searches II (B232.02.01)

This test verifies that all the parameter search 2 that were performed were successfully done. Such searches include coincident search, data dictionary search, ECS query language and product listing searches. The search requests that were performed will be logged in the data access log.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Search scenario based on available data

Test Output:

Search result package.

Success Criteria:

All coincident search, data dictionary search, ECS query language and product listing searches result package contains data with the specified data product or core metadata attribute specified. All submitted search requests are logged.

L3 Requirements:

IMS-0610#B, IMS-0640#B, IMS-0575#B, IMS-0650#B, IMS-0500#B, IMS-0545#B

IMS-0270#B, EOSD5040#B, EOSD5010#B, EOSD5060#B, IMS-0320#B, IMS-0500#B

IMS-0630#B, IMS-0550#B, IMS-0560#B.

L4 Requirements:

S-CLS-10190, S-CLS-10200, S-CLS-10210, S-CLS-10730, S-CLS-11290, S-CLS-10175.

4.2.4.12.2 Test Case 2: Verify Distributed Search Requests II (B232.02.02)

This test verifies that all the distributed search request II that were performed were successfully done. Such test are standard product request, subsetting, subsampled and summary product request, graphical view representation, data distributions, data acquisition and data request test.. The distributed search requests that were performed will be logged in the data access log.

Test Configuration:

- Hardware: workstation, Data Dictionary DBMS Server, Data Management, Access Control and Management, Working Storage, Data Repository, Distribution Management
- Software: Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, Data Dictionary DBMS, V0 Client, Gateway Server, Gateway DBMS.
- Data: Data Sever Database populated with representative Data
- Tools: Earth Search Science Tool, Data Dictionary Tool, Advertising Service Tool, Java Earth Science Tool, Session Management Tool, Product Request Tool, EOSView, Data Acquisition Request.

Test Input:

Search scenario based on available data

Test Output:

Search result package.

Success Criteria:

All standard product request, subsetting, subsampled and summary product request result package contains data with the specified data product or core metadata attribute specified. All graphical view representation, data distributions, data acquisition and data request test result package contains data with the specified data product. And specified data distributed reaches destination. All submitted search requests are logged.

L3 Requirements:

IMS-0340#B, IMS-0680#B, IMS-0770#B, IMS-0900#B, IMS-0910#B, IMS-0320#B,IMS-0700#B, IMS-0705#B, IMS-0940, IMS-0190#B, IMS-0570#B, IMS-0930IMS-0665#B, IMS-1300, IMS-1330#B, IMS-0690#B, IMS-1310#B, IMS-0810#B, IMS-0925#B, IMS-1005#B, IMS-0740#B, IMS-0500#B, IMS-0510, ASTER-0010#B,IMS-0280#B, IMS-1100#B..

L4 Requirements:

S-CLS-10220, S-CLS-14540, S-CLS-14550, S-CLS-10240, S-CLS-12530, S-CLS-13500, S-CLS-13510, S-CLS-13520, S-CLS-13530, S-CLS-12480, S-CLS-13580, S-CLS-13590, S-CLS-11060, S-CLS-14230, S-CLS-15830, S-CLS-10870, S-CLS-13250, S-CLS-13840, S-CLS-10260, S-CLS-13950, S-CLS14030

4.2.5 Planning and Data Processing Subsystems

4.2.5.1 Processing Request Thread IIA

Testing will demonstrate the ability of the operations staff to suspend and resume data processing requests. Data for data processing requests will be staged in a timely manner. The AITTTL GUIs will conform to the style guide standards as much as possible. Quality assurance checks will be performed as specified. This includes checking input and output granule size, product specific metadata values, and core metadata values.

4.2.5.1.1 Test Case 1: Data Process Request (T233-11.02.01)

This test verifies that a valid suspend process request will suspend the specified process and the status of the process will be changed to suspended. It will be verified that no further processing is done on a DPR that is suspended. This test will also verify that a suspended DPR is resumed when a resume data processing request is issued for that process. The state of the process is restored to the state it was in before the process was suspended. This test also verifies that a request to resume processing on a process that is not currently suspended will result in the rejection of the operation command.

Test Configuration:

- Hardware: Science Processing HWCI.
- Software: PRONG COTS, PRONG COTS Management, PRONG PGE Execution Management, PRONG Data Management.
- Data: Various Data Processing Requests.
- Tools:

Test Input:

DPRs in progress. Valid suspend data processing requests are issued by the operations staff on several of the DPRs. Valid resume data processing requests issued by the operations staff on some of the suspended DPR's, and also on some of the DPR's that are not suspended.

Test Output:

A status message acknowledging receipt of the suspend data processing request is displayed. Data processing for that process is suspended (no further processing will occur) and the status of the process is updated to suspended. Process resumes processing. For DPR's that were not suspended the command is rejected and an error message stating the request is rejected is displayed.

Success Criteria:

The suspend data processing request is accepted, the process is suspended, and the status of the process is changed to suspended. A message acknowledging receipt of the suspend data processing request is sent to the operations staff. No further processing is done on the suspended process. For a valid resume processing request issued on a suspended process, an acknowledgment that the process has resumed processing is sent to the operations staff. The suspended process resumes processing. The state of the process is restored to the state it was in prior to being suspended. In the event the process was not suspended and a resume processing request was issued, an error message will be issued to indicate that the specified process was not suspended and the command will be rejected.

L3 Requirements:

PGS-0270#B, PGS-0300#B, PGS-1160#B

L4 Requirements:

S-DPS-21730, S-DPS-21740, S-DPS-22560, S-DPS-22590, S-DPS-22600, S-DPS-22611

4.2.5.2 Processing Request Thread IIB (T233-12.02)

Testing will demonstrate the ability of the operations staff to suspend and resume data processing requests. Data for data processing requests will be staged in a timely manner. The AITTL GUIs will conform to the style guide standards as much as possible. Quality assurance checks will be performed as specified. This includes checking input and output granule size, product specific metadata values, and core metadata values.

4.2.5.2.1 Test Case 1: Processing GUI Conformance (T233-12.02.01)

This test verifies that the interface conforms to the guidelines in version 5.1 of the ECS User Interface Style Guide.

Test Configuration:

- Hardware: Workstation.
- Software: Processing GUI, COTS GUI,
- Data: Checklist from version 5.1 of the ECS User Interface Style Guide.
- Tools: XRunner

Test Input:

Display Processing GUI, processing COTS GUI (Autosys). A checklist provided from the Style Guide.

Test Output:

Display of the GUIs.

Success Criteria:

The processing COTS GUI, to the extent possible, conforms to the guidelines specified in the checklist provided from version 5.1 of the ECS User Interface Style Guide. The processing GUI conforms to the checklist provided.

L3 Requirements:

IMS-1380#B

L4 Requirements:

S-DPS-21855, S-DPS-21856

4.2.5.3 Enhanced Production Plan IIA

Testing will demonstrate the ability to manage production planning. Receipt of Data Availability Schedules will be tested. Data Availability Schedules based on a plan shall be created. It will be possible to set up a dependency list between ECS Services and hardware resources for projecting the impacts of a hardware outage on the ECS Services. The resource usage of a production request can be estimated prior to the inclusion of the request into a plan. Replan events will be tested. Integrating plans from other DAACs into a coordinate plan will be tested. The on-demand production request thresholds will be exercised by entering various on-demand production requests into the system.

4.2.5.3.1 Test Case 1: DAS Received and Accepted (T233-21.02.01)

This test verifies the ability to manually submit data subscriptions for FOS plans and schedules to the data server. DAS Notices indicating the arrival of plans and schedules, including FOS plans and schedules as well as any remote ECS sites, are received and displayed to the operator. A response message is sent to the data server upon receiving the plans and schedules. A Data availability schedule (DAS) will be created for EDOS based on FOS plans and schedules.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Subscription Editor, Subscription Manager, Production Planning Workbench, PDPS Database Server
- Data: DAS Notices, FOS Plans and Schedules.
- Tools:

Test Input:

Data subscriptions for FOS plans and schedules are sent to the data server. Plans and schedules are moved/copied to simulate receipt from the Data Server. Initiate the creation of a DAS.

Test Output:

A simulated DAS notice is received and displayed. Plans and schedules are received. A response message is sent to the data server. A DAS is created for EDOS based on FOS plans and schedules.

Success Criteria:

A DAS notice is received and displayed when DAS for FOS plans and schedules are available. FOS plans and schedules are retrieved. The appropriate response message is sent to the data server. The DAS for EDOS is successfully created and reflexes the FOS plans and schedules presented by the data server.

L3 Requirements:

PGS-0150#B, PGS-0180#B, DADS2020#B

L4 Requirements:

S-PLS-00631, S-PLS-00654, S-PLS-00665

4.2.5.3.2 Test Case 2: Generate DAS and Plans for Data Server (T233-21.02.02)

This test verifies the ability to create a data availability schedule (DAS) and the corresponding metadata and send it to the data server. The DAS reflects the data products expected to be generated in the active plan. Site production plans and site resource plans will also be provided to the data server. In this test case, the interface with the data server will not be tested, only the ability of planning to send the DAS and plans will be tested.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Subscription Manager, Production Planning Workbench, Resource Planning Workbench.
- Data: Site production plan, site resource plan.
- Tools:

Test Input:

An active site production plan is present. A DAS is created and displayed. Send DAS to the data server. Send site production plan to the data server. A site resource plan is present. Send site resource plan to the data server.

Test Output:

A DAS is created and displayed. DAS is sent to the data server. Site production plan is sent to the data server. The site resource plan is sent to the data server.

Success Criteria:

The DAS is successfully created and sent to the data server. The DAS reflects the data products expected to be generated in the active plan. The site production plan and site resource plan are successfully sent to the data server.

L3 Requirements:

PGS-0150#B

L4 Requirements:

S-PLS-00850, S-PLS-00860

4.2.5.3.3 Test Case 3: Estimate Resource Usage (T233-21.02.03)

This test verifies that the user can receive an estimate of the resource usage of a production request prior to the inclusion of that production request in a production plan.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Request Editor, PDPS Database Server, Production Planning Workbench.
- Data: Production requests.
- Tools:

Test Input:

Various production requests which have varying resource usage requirements are present. Operator issues a command to receive an estimate of the resource usage requirements of the production requests.

Test Output:

Resource usage requirements for the specified production request.

Success Criteria:

The user will be provided with an estimate of the resource usage of a production request prior to the inclusion of that request in a production plan.

L3 Requirements:

L4 Requirements:

S-PLS-02440

4.2.5.4 Enhanced Production Plan Thread

Testing will demonstrate the ability to manage production planning. Receipt of Data Availability Schedules will be tested. Data Availability Schedules based on a plan shall be created. It will be possible to set up a dependency list between ECS Services and hardware resources for projecting the impacts of a hardware outage on the ECS Services. The resource usage of a production request can be estimated prior to the inclusion of the request into a plan. Replan events will be tested. Integrating plans from other DAACs into a coordinate plan will be tested. The on-

demand production request thresholds will be exercised by entering various on-demand production requests into the system.

4.2.5.4.1 Test Case 1: Extract Planning Subsets (T233-22.02.01)

This test verifies that temporal subsets can be extracted from a Production or Resource Plan and saved to a file. Subsets based on user selected PGEs can be extracted from a Production Plan and saved to a file.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, PDPS Database Server
- Data: Production and resource plans.
- Tools:

Test Input:

Production and Resource plans are present. Initiate temporal subsetting on the Resource plan. Initiate temporal subsetting on the Production Plan. Initiate subsetting based on user-selected PGEs on the Production Plan. View Results.

Test Output:

Temporal subsets from a production plan and a resource plan are extracted and saved to a file. Subsets based on user-selected PGEs are also extracted from the Production Plan and saved to a file.

Success Criteria:

Temporal Subsets are extracted from Production and Resource Plans and saved to a file. Subsets based on user-selected PGEs are extracted from Production Plans and saved to a file. All subsets shall accurately reflect that portion of the plan that was specified in the subsetting criteria.

L3 Requirements:

SMC-1335#B

L4 Requirements:

S-PLS-02200, S-PLS-02210

4.2.5.4.2 Test Case 2: High-level View of Production Plans (T233-22.02.02)

This test verifies that Planning has the capability to provide a high-level, aggregate view of production plans.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server

- Software: Production Planning Workbench, PDPS Database Server
- Data: Site production plan.
- Tools:

Test Input:

Current site production plan. This plan will contain numerous PGEs, and several of the PGEs will be run numerous times throughout the plan.

Test Output:

A high-level view of the production plan.

Success Criteria:

The view produced will be a high-level view of the Production Plan which accurately reflects the actual Production Plan.

L3 Requirements:

SMC-1335#B

L4 Requirements:

S-PLS-02200, S-PLS-02210

4.2.5.4.3 Test Case 3: Service/Hardware Dependencies (T233-22.02.03)

This test verifies that Planning has the capability to set up dependencies between ECS services and hardware resources. This will be used to plan the affects of future ground events on the system. An operator will create or update a dependency table which shows the dependencies between hardware resources and services. That table will then be viewed.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, PDPS Database Server, Resource Planner
- Data:
- Tools:

Test Input:

Operator will create a dependency list which specifies the dependencies between hardware resources and ECS services. View the list. Update the list. View the list.

Test Output:

Creation of a dependency table. Viewing of the dependency table. Updating and viewing of the table.

Success Criteria:

The operator will be able to create a dependency table, or update a currently existing table. The table will be viewed and will accurately reflect the updates.

L3 Requirements:

SMC-1335#B

L4 Requirements:

S-PLS-00322

4.2.5.4.4 Test Case 4: Replanning (T233-22.02.04)

This test verifies that replan events can be listed, and that these events, when they occur, will result in replan notification being sent to the user. The ability to replan will also be verified.

Replan events are as follows: 1) A change in the availability of hardware resources, due to a replan, less than X hours in the future; 2) The arrival of a new Data Availability Schedule (DAS) indicating that data will be delayed by more than the user-configured delay parameter; and 3) The submission of an On-Demand Production Request with resource requirements which exceed predefined thresholds.

Each of these replan events will be tested twice: once the operator will cancel without replanning, the other the operator will accept and replanning will occur.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, PDPS Database Server.
- Data: Site production plan, DAS, on-demand production requests, resource plans.
- Tools:

Test Input:

Operator command to list replan events.

Current Production Plan. Set the user-configurable parameter to X hours. Initiate a new resource plan which change the availability of hardware resources for a time that exceeds X hours, and a time that is within the X hours. Cancel the replan notification without replanning. Repeat with a new resource plan which exceeds the X hours and accept replanning.

Current Production Plan. Set the user-configurable delay parameter. Initiate the arrival of a DAS which indicates data will be arriving on time, data which will be arriving later than previously scheduled but prior to the user-configured delay, and data which will be arriving later than the user-configurable delay. Cancel replan notification without replanning. Repeat with a DAS that arrives later than the user-configurable delay and accept replanning.

Current Production Plan. Submission of various On-Demand Production Requests - some with resource requirements that exceed predefined thresholds. Reject replanning for some and accept replanning for others.

Test Output:

Listing out of the replan events.

Notifications indicating the user-configurable parameters have been set. Replan notifications are received. Replanning is initiated in some cases.

Success Criteria:

Replan events are accurately listed.

Replan notifications are received for the following conditions: 1) A change in the availability of hardware resources, due to a replan, less than X hours in the future; 2) The arrival of a new Data Availability Schedule (DAS) indicating that data will be delayed by more than the user-configured delay parameter; and 3) The submission of an On-Demand Production Request with resource requirements which exceed predefined thresholds. Upon rejecting replanning, the replan notification will be canceled and no replanning will occur. Upon accepting replanning, a candidate plan will be formulated which takes the replan event into account.

Replan notifications are not received for any other conditions.

L3 Requirements:

PGS-0295#B, PGS-0140#B

L4 Requirements:

S-PLS-01230, S-PLS-02400, S-PLS-02410, S-PLS-02420, S-PLS-02430

4.2.5.4.5 Test Case 5: Cross-DAAC Scheduling (T233-22.02.05)

This test verifies that scheduling information on external events which affect processing resources and operations (such as delayed data from non-ECS sources) is accepted. This test also verifies that information from multiple DAAC site production plans can be displayed concurrently. Priorities and planned execution times of jobs causing scheduling conflicts within and between the DAACs are provided to operations personnel. Scheduling conflicts caused by cross-DAAC data dependencies in the site production plans will be displayed and accounted for in the candidate plans.

Test Configuration:

- Hardware: Production Planning Workstations, Planning Server
- Software: Production Planning Workbench, PDPS Database Server
- Data: External event notifications, DPRs, Site production plans from various DAACs that contain DPRs scheduled that can not be performed due to data that is not scheduled to arrive in time.
- Tools: N/A

Test Input:

Simulated external notifications are received. Site production plans are present from other sites. These plans contain data dependencies which cause scheduling conflicts. The displaying of data dependencies is requested. A candidate plan is generated and displayed.

Test Output:

The external notification is accepted. . Information from multiple DAAC site production plans are displayed concurrently. The cross-DAAC data dependencies will be displayed on a GUI. A candidate plan is generated and displayed.

Success Criteria:

The external notification is received. Information from multiple DAAC site production plans are displayed concurrently. The priorities and planned execution times of jobs causing schedule conflicts are correctly identified and displayed. A candidate plan is generated which will not contain any cross-DAAC data dependency conflicts.

L3 Requirements:

SMC-1500#B, SMC-1600#B, SMC-1610#B, SMC-1620#B

L4 Requirements:

S-PLS-02000, S-PLS-02010, S-PLS-02020, S-PLS-02030, S-PLS-02040, S-PLS-02060, S-PLS-02070

4.2.5.5 Enhanced Production Management Thread IIA (T233-31.02)

Testing will demonstrate the enhanced production management thread through verification of reprocessing and on-demand production requests. Site resource plans will be created, saved, modified, and retrieved. The display of warning messages will be tested. A ground event will be executed from a script.

4.2.5.5.1 Test Case 1: Maintain PGE Information (T233-31.02.01)

This test verifies that the Product Generation Executives (PGEs) information necessary to support the production of tile or spatial-based output granules is maintained. Maintained in this context does not include creating, modifying, or deleting; maintaining means to persistently store the PGE information.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, PDPS Database Server, Subscription Manager
- Data: PGE information.
- Tools:

Test Input:

PGE information relating to the production of tile or spatial-based output granules.

Test Output:

PGE information is maintained by the system.

Success Criteria:

The PGE information necessary to support the production of tile or spatial-based output granules is maintained.

L3 Requirements:

PGS-0210#B

L4 Requirements:

S-PLS-00407

4.2.5.5.2 Test Case 2: Enter/Query/Update/Cancel Reprocessing PRs (T233-31.02.02)

This test verifies that an operator can command planning to reprocess a data product for which the input data is currently available. An operator can also enter, query, update, and cancel reprocessing production requests.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Request Editor, PDPS Database Server, Production Planning Workbench
- Data: Reprocessing production requests.
- Tools:

Test Input:

Enter valid and invalid reprocessing production requests. Some reprocessing requests will be invalid because they require data which is not in the ECS system. Display PRs. Operator will query reprocessing production requests using a variety of query criteria. Operator will issue both valid and invalid update reprocessing production requests. Operator will cancel several of the reprocessing production requests.

Test Output:

Responses are displayed. PR information is displayed. PR will be updated or canceled as commanded by the operator. Invalid requests will result in an error message being displayed to the operator. PR queries will result in the display of the requests matching the search criteria to the operator.

Success Criteria:

Valid PRs commanded to be reprocessed are accepted. Valid queries will return results to the operator. PR updates and cancellations will be successfully accepted. Invalid requests will result in an error message being displayed to the operator.

L3 Requirements:

EOSD1720#B, PGS-0160#B, PGS-0165#B, PGS-0220#B, PGS-0230#B, PGS-0240#B, PGS-0285#B, PGS-0380#B, PGS-0540#B, PGS-0550#B, SCF-0270#B

L4 Requirements:

S-PLS-00070, S-PLS-01210

4.2.5.5.3 Test Case 3: Query/Update/Cancel On-Demand PRs (T233-31.02.03)

This test verifies that an operator can query, update, and cancel on-demand production requests.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Request Editor, PDPS Planning Database, Production Planning Workbench.
- Data: On-demand production requests.
- Tools:

Test Input:

A variety of on-demand production requests exist in the system. The operator will query on-demand production requests using a variety of query criteria. Operator will issue both valid and invalid update on-demand production requests. Operator will cancel some on-demand production requests.

Test Output:

Responses are displayed. PR information is displayed. PR will be updated and canceled as commanded by the operator. Invalid requests will result in an error message being displayed to the operator. PR queries will result in the display of the requests matching the search criteria to the operator.

Success Criteria:

Valid queries will return results to the operator. PR updates and cancellations will be successfully accepted. Invalid requests will result in an error message being displayed to the operator.

L3 Requirements:

PGS-0160#B, SCF-0270#B, PGS-0380#B

L4 Requirements:

4.2.5.5.4 Test Case 4: PGE Selection (T233-31.02.04)

This test verifies that a user is prompted for confirmation of the selection of a PGE if a more recent version of the PGE exists. The Production Planning Workbench will be invoked. The Production Request Editor will be invoked. The operator will choose to create a data product for which several versions of PGE's exist. The operator will choose a version which is not the most recent version.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, Production Request Editor, PDPS Database Server
- Data: Several versions of PGE's which produce the same product.
- Tools:

Test Input:

The Production Planning Workbench and the Production Request Editor will be invoked. The operator will choose a version of a PGE which is not the most recent version for that product.

Test Output:

Notification will be received indicating that there is a more recent version of PGE that can produce that product.

Success Criteria:

The user will be provided with a message indicating that a more recent version of PGE exists for the specified product. The operator will be given the opportunity to choose again.

L3 Requirements:

L4 Requirements:

S-PLS-02500

4.2.5.6 Enhanced Production Management Thread IIB (T233-32.02)

Testing will demonstrate the enhanced production management thread through verification of reprocessing and on-demand production requests. Site resource plans will be created, saved, modified, and retrieved. The display of warning messages will be tested. A ground event will be executed from a script.

4.2.5.6.1 Test Case 1: Resource Plan (T233-32.02.01)

This test verifies that the operator can display a site resource plan. The display will cover an operator specified time interval, in text report and timeline display format, to a resolution of one minute which describes the shared allocation of planned site resources to default activities and ground events. Site resource plans will be saved to a file. Saved site resource plans will be imported.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server, MSS Workstation
- Software: Production Planning Workbench, PDPS Database Server, Resource Planning Workbench
- Data: Site resource plan.
- Tools:

Test Input:

A site resource plan exist. The operator will specify a time interval for the display. The current site resource plan will be displayed as a text report and as a timeline. Modify the site resource plan and save it to a file. The site resource plan will be retrieved and displayed in both textual and timeline format.

Test Output:

A display of the site resource plan. A site resource plan will be saved to a file. The saved site resource plan will be imported and displayed.

Success Criteria:

The display will be in text report and timeline display format, and cover the operator specified time interval. The resolution on the display will be in one minute intervals. The display will describe the shared allocation of planned site resources to default activities and ground events. The site resource plan will be saved to a file. The saved site resource plan will be imported.

L3 Requirements:

SMC-0320#B, SMC-1320#B, SMC-1305#B, SMC-1315#B, SMC-1345#B

L4 Requirements:

S-PLS-00306, S-PLS-00365, S-PLS-00370

4.2.5.6.2 Test Case 2: Ground Event (T233-32.02.02)

This test verifies that Planning provides the capability to initiate a site ground event script associated with a resource request in the resource plan at the planned for time. In this test case, the ground event will perform a backup function. The start time and end time of the execution of the script will be logged.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, PDPS Database Server, Resource Planning Workbench.
- Data: Site resource plan, ground event script.
- Tools:

Test Input:

Site resource plan is present which contains a ground event script associated with a resource request. Initiate site resource plan.

Test Output:

The ground event script will get executed. The specified ground event will occur. The start and end time of the execution of the script will be logged.

Success Criteria:

The ground event script will execute at the time specified in the resource plan. The ground event shall perform the function specified in the ground event script. The start and end time of the execution of the script will be logged.

L3 Requirements:

SMC-0330#B, SMC-3325#B

L4 Requirements:

S-PLS-00375, S-PLS-00380, S-PLS-00385

4.2.5.6.3 Test Case 3: Compare Actual vs. Planned Resource Usage (T233-32.02.03)

This test verifies that Planning provides the capability to generate reports which show the comparison of planned resource usage to actual resource usage for a specific, planned ground event. This would be invoked after the planned ground event had executed. The operator will initiate the creation of the report. This will initiate the retrieving of the actual resource usage from MSS. This will then be compared to the resource usage specified in the resource plan. A report will be generated showing the allocated time in the resource plan compared to the actual time the ground event consumed.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server
- Software: Production Planning Workbench, PDPS Database Server, Resource Manager
- Data: Site Resource Plan, simulated resource usage log from MSS.
- Tools: Report generator.

Test Input:

Current Site Resource Plan, and current simulated resource usage information is available. Operator issues a command to compare planned resource usage to actual resource usage for a planned ground event.

Test Output:

A chart showing the planned site resource usage vs. the actual site resource usage.

Success Criteria:

The resulting chart will accurately reflect the information in the site resource plan and the actual resource usage log, and will compare the two for the specified ground event.

L3 Requirements:**L4 Requirements:**

S-PLS-00355

4.2.5.7 Planning and Processing II (B233.02)**4.2.5.7.1 Test Case 1: PGE Conditional Execution (B233.02.01)**

This test verifies that Planning will allow the conditions for execution of a PGE to include the values of metadata fields of input data. A PGE will be used which will only run if a specific value is present in a particular field in the input metadata. The metadata for the input data set will be set to the proper value for the PGE to run. The input metadata will then be altered so that the field does not contain the proper value for the PGE to run.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server, PRONG HWCI
- Software: Production Planning Workbench, Production Request Editor, PDPS Database Server, PRONG CI
- Data: Input data set for the PGE.
- Tools:

Test Input:

The metadata for the input data will be set so that the PGE Profile will allow the PGE to be run with that data set. The Production Planning Workbench and the Production Request Editor will be invoked. The PGE will be commanded to run. The metadata for the input data will be altered to a value that will not allow the PGE to be run.

Test Output:

The input metadata will be set. The PGE will execute. The input metadata will be altered.

Success Criteria:

The PGE will execute in the first case. The PGE will not execute in the second case. The operator will be notified when the PGE does not execute.

L3 Requirements:

PGS-0210#B

L4 Requirements:

S-PLS-00405

4.2.5.7.2 Test Case 2: Production Requests (B233.02.02)

This test verifies that an operator can command planning to reprocess a data product for which the input data is currently available. An operator can enter, query, update, and cancel reprocessing production requests. This test also verifies that an operator can query, update, and cancel on-demand production requests. Any input data used by the production requests will be available on local storage.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server, Science Processing HWCI
- Software: Production Request Editor, PDPS Database Server, Production Planning Workbench, PRONG, Autosys
- Data: Reprocessing production requests, on-demand production requests, input data as needed.
- Tools:

Test Input:

A variety of on-demand production requests exist in the system. Enter valid and invalid reprocessing production requests. Some reprocessing requests will be invalid because they require data which is not in the ECS system. Display PRs. Operator will query reprocessing production requests using a variety of query criteria. The operator will query on-demand production requests using a variety of query criteria. Operator will issue both valid and invalid update reprocessing production requests and update on-demand production requests. Operator will cancel several of the reprocessing production requests and on-demand production requests.

Test Output:

Responses are displayed. PR information is displayed. The results from PR queries will be displayed to the operator. PR will be updated or canceled as commanded by the operator. Invalid requests will result in an error message being displayed to the operator.

Success Criteria:

Valid PRs commanded to be reprocessed are initiated. Valid queries will return correct results to the operator. PR updates and cancellations will be successfully accepted. Invalid requests will result in an error message being displayed to the operator.

L3 Requirements:

EOSD1720#B, PGS-0160#B, PGS-0165#B, PGS-0220#B, PGS-0230#B, PGS-0240#B, PGS-0285#B, PGS-0380#B, PGS-0540#B, PGS-0550

L4 Requirements:

S-PLS-00070, S-PLS-01210

4.2.5.7.3 Test Case 3: Input Data Deletion (B233.02.03)

This test verifies that data staged for a PGE will be deleted if the PGE is canceled and no other DPR needs it. If another DPR does need the staged data, it will not be deleted.

Test Configuration:

- Hardware: Science Processing HWCI, Planning HWCI
- Software: PRONG COTS, PRONG COTS Management, PRONG Data Management, PLANG CI.
- Data: Active site production plan, DPRs, input data for the DPRs.
- Tools:

Test Input:

Active plan in progress with numerous DPR's. Some DPRs are canceled.

Test Output:

Some DPRs are canceled. Data staged for a canceled DPRs is deleted if no other DPR needs it.

Success Criteria:

Data staged by a canceled DPR is deleted when no other DPR requests the staged data. Staged data will not be deleted if it is needed by another DPR.

L3 Requirements:

PGS-0240#B

L4 Requirements:

S-DPS-20695

4.2.5.7.4 Test Case 4: Granule Size (B233.02.04)

This test verifies that the size of input and output granules from Data Processing Requests are checked. If the granules are not within a pre-assigned range, a notification will be sent to the operations staff. A production plan will be activated. The input data will be staged from the data

server. It will then be checked for size before being passed to the PGE for use. Some of the granules will not be within the predefined ranges of values. PGEs will run on the valid input granules. Some of the PGEs will produce output granules that are not within the predefined range of values.

Test Configuration:

- Hardware: Science Processing HWCI, Planning HWCI, Data Server HWCI
- Software: PRONG CI, PLANG CI, Data Server CI.
- Data: Production Plan, input granules for DPRs, PGEs
- Tools:

Test Input:

Activate production plan.

Test Output:

Notifications indicating input and output data granules are outside the predefined range of values.

Success Criteria:

Notifications will be sent to the operations staff indicating the appropriate input and output data granules which are not within the specified range of values for input and output granules.

L3 Requirements:

PGS-1015#B

L4 Requirements:

S-DPS-24000, S-DPS-24010

4.2.5.7.5 Test Case 5: PGE Database (B233.02.05)

This test verifies that the operations staff, via the AITTL, has the capability to restrict access to the PGE database, to maintain a record of the updates made, and to update the database using a file as input.

Test Configuration:

- Hardware: AITTL HWCI, Planning Server.
- Software: AITTL CSCI, PDPS Database Server.
- Data: Data within the PDPS Database.
- Tools:

Test Input:

A request by authorized and unauthorized users to access the database. Perform several updates to the PGE database, some using a file as input. Displaying of update log.

Test Output:

A message indicating that the unauthorized users access is denied. A display of the update log.

Success Criteria:

The PGE database will be restricted to authorized personnel only. The PGE database will not be accessible by an unauthorized user. A display of the update log which accurately reflects all changes to the database.

L3 Requirements:

EOSD2400#B, PGS-0930#B

L4 Requirements:

S-DPS-41355, S-DPS-41360

4.2.5.7.6 Test Case 6: Candidate Plans (B233.02.06)

This test verifies the creation of a candidate plan that will satisfy DASs. The candidate plan will specify a timeline for PGE execution. This test also verifies the creation of a candidate plan that will satisfy production requests for reprocessing and on-demand data products, as well as consolidate any outstanding data processing requests in the current active plan.

Test Configuration:

o Hardware: Production Planning Workstation, Planning Server, Science Processing HWCI.

- Software: Production Planning Workbench, Production Request Editor, PDPS Database Server, PRONG CI, Autosys.
- Data: DASs, reprocessing and on-demand data requests.
- Tools:

Test Input:

A number of reprocessing and on-demand data product requests are in the planning system. A number of DASs are in the system. Create and display the candidate plan. A number of data processing requests that will not be accommodated in the active plan are entered into the planning system. Create and display the candidate plan.

Test Output:

Candidate plans are created. The candidate plans are displayed. Replan and deferment notifications are received by the operations staff.

Success Criteria:

A candidate plan is successfully created and satisfies production requests for reprocessing and on-demand data products, and satisfies present DASs. Another candidate plan is successfully created and incorporates any outstanding data processing requests. All candidate plans will be consistent with available and allocated processing resources. Replan and deferment notifications are received.

L3 Requirements:

PGS-0150#B, PGS-0220#B, PGS-0230#B, PGS-0250#B, PGS-0300#B

L4 Requirements:

S-PLS-00700, S-PLS-00720, S-PLS-00811

4.2.5.7.7 Test Case 7: Remote Candidate Plans (B233.02.07)

This test verifies that a candidate plan can be created remotely by the SMC. The candidate plan will specify a timeline for PGE execution. This test also verifies the creation of a candidate plan that will satisfy production requests for reprocessing and on-demand data products, as well as consolidate any outstanding data processing requests in the current active plan.

Test Configuration:

- Hardware: Production Planning Workstation, Planning Server, Science Processing HWCI.
- Software: Production Planning Workbench, Production Request Editor, PDPS Database Server, PRONG CI, Autosys, X11 protocol interface
- Data: DASs, reprocessing and on-demand data requests.
- Tools:

Test Input:

A number of reprocessing and on-demand data product requests are in the planning system. A number of DASs are in the system. Create and display the candidate plan. A number of data processing requests that will not be accommodated in the active plan are entered into the planning system. Create and display the candidate plan.

Test Output:

Candidate plans are created remotely by the SMC. The candidate plans are displayed at the remote site.

Success Criteria:

A candidate plan is successfully created remotely by the SMC.

L3 Requirements:

L4 Requirements:

Being written

4.2.6 Integrated Client Services Build 2 Test (B220.02)

The Integrated Client Services Build 2 test verifies that key functions common to the Client, MSS and CSS work together. These include system security and communications using the internet and e-mail. The test verifies that users can log in using the internet to register a user with the ECS system, then check and modify the user's profile. The test verifies access restrictions to ECS services. The User Comment Survey functionality is exercised. The test verifies that user sessions can be established and session logs are maintained and checked, and that enhanced data visualization tools can be used.

Test Configuration:

- Hardware: Client workstation, Xterm workstation, Netscape Enterprise Server, MSS server, CSS server, Sybase Server
- Software: Desktop Manager, Science Workbench (including the following tools to be tested: User Registration Tool, User Comment Survey Tool, Logger/Reviewer Tool, Earth Science Search Tool, E-mailer Tool, Session Management Tool, News Reader Tool, E-mailer Tool), Netscape Navigator, Mosaic,
- Data: User Registration Requests, user accounts data, user comment survey form, user comment data, user profile data, HDF data files to support color images manipulation and visualizations (with HDF-EOS geolocation conventions), numerical and data arrays
- Tools: XRunner

4.2.6.1 Test Case 1: Registration and Data Access to the ECS System (B220.02.01)

This test verifies the capability to register a new user in an ECS system. This test verifies that User Registration Requests can be submitted and various data access privileges can be granted. For subsequent access, the system checks for valid user authorization. This test verifies that the user can query the user profile database to verify that the stored profile data is correct. The user is allowed or denied system access based on the returned User Validation Status. Access to data and services is restricted if the user lacks sufficient privileges.

Test Input:

Use the User Registration Tool to fill in the Registration form. Submit the registration form to the ECS system via the internet. Request the user profile data. Attempt to access ECS services for which the user has access. Attempt to access ECS services for which the user has no access.

Test Output:

Registration message replies are received via the internet. Messages are displayed showing status of the registration. When valid, the user profile information is displayed. The user profile data contains both user supplied and default information. When the user has privileges, access to

data and services is allowed. When the user does not have sufficient privileges, access to data and services is denied.

Success Criteria:

The user is able to access the ECS system (a Common facilities request) using the internet. The new user is able to register onto the ECS system. Valid user requests are processed and no errors are returned. A user can only access data and services based on the user's privileges. If the user lacks sufficient privileges, access to restricted data and services is denied and appropriate messages are returned to the user. Entered user profile data is correct. Authorized user services are displayed.

L3 Requirements:

EOSD2400#B, ESN-0010#B, ESN-1400#B, IMS-0040#B, IMS-0060#B, IMS-0080#B, IMS-0130#B, SMC-7300#B

L4 Requirements:

C-CSS-10600, C-CSS-10610, C-CSS-10620, C-CSS-10630, C-MSS-75100, C-MSS-75105, C-MSS-75110, C-MSS-75130, C-MSS-75140, C-MSS-75100, S-CLS-13090, S-CLS-13380, S-CLS-13390, S-CLS-13400, S-CLS-15760

4.2.6.2 Test Case 2: Modifying the user profile data (B220.02.02)

This test verifies that ECS user can display and modify his user profile data and request changes to account priorities and authorized user services. Different data and services can be accessed based on the new user authorizations.

Test Input:

The user submits requests for a service for which the user is not currently authorized. The user uses the User Registration Tool to request and display the user's account data. The user modifies the user data and requests different account priorities and data access. The user submits the modified account to the ECS system. The system administrator modifies the priorities and changes the authorized services. The user requests his user account data. The user accesses a newly authorized service.

Test Output:

Data for which the user is not authorized is not accessible. The updated user account information is displayed at the user's workstation after the request is processed. Messages are displayed stating the outcome of the requests. The newly authorized service is accessed.

Success Criteria:

User Profile data is correctly modified. Accesses can be changed based on the user profile modifications.

L3 Requirements:

IMS-0070#B, SMC-7300#

L4 Requirements:

C-MSS-75115, S-CLS-13115

4.2.6.3 Test Case 3: Submission and access of comment survey data (B220.02.03)

This test verifies that the users can submit and retrieve User Comments using the User Comment Survey form. Submitted comments can be retrieved by the user based on author, subject and date/time and compared with the input data.

Test Input:

Initiate the user comments function using the Comment/Survey Tool. Select the User Comment Survey function. Fill out the comment on ECS survey. Include information on product data quality and on schedule performance assessment. Send the survey form to the ECS using the internet. The system administrator at the SMC checks the Comment Survey database to verify the arrival of the form. The user retrieves his user comments by author, subject, date and time and displays the data at his workstation.

Test Output:

Message to confirm the acceptance of the user comment survey. Comments are verified and sent to the SMC. Comments are displayed at the SMC. User comments are retrieved and displayed at the user's workstation.

Success Criteria:

Comments are successfully entered. Correct responses are displayed to the user. User comment survey database is updated. Data includes product data quality assessment, schedule performance assessment and evaluation of quality of ECS service. User comment data can be retrieved based on author, subject and time matches the input data.

L3 Requirements:

ESN-0010#B, ESN-1400#B, IMS-1645#B, SMC-3421#B, SMC-5320#B, SDPS0091#B

L4 Requirements:

C-MSS-75125, C-MSS-75150, S-CLS-11100, S-CLS-11110, S-CLS-11120, S-CLS-14200

4.2.6.4 Test Case 4: User Sessions (B220.02.4)

This test verifies user session capabilities. A user session supports interactions between the user and all of ECS and allows the user to interact with ECS as a single entity. User sessions manage resources and result sets that are directly or indirectly controlled by the user interface client. User sessions are initiated and terminated, status information is obtained, and the user connects to existing user sessions. A session profile is created for user sessions. The session profile can contain any of the parameters which are in the user profile and which apply as defaults to ECS service requests.

Test Input:

Submit several service requests to initiate multiple concurrent interactive sessions. Transition between sessions with a mouse click. Terminate a number of the sessions. Submit service requests to active sessions. Request status information on user sessions. Create session profiles for each user session. Create valid and invalid session profiles. Several profiles should contain parameters which are in the user profile. Create a new session with default values from an existing session. Terminate the sessions.

Test Output:

Concurrent service requests between the user interface client and one or more servers are issued. Sessions are initiated. Service requests are accepted and executed. Status information on user sessions is displayed. Valid session profiles are accepted. Invalid session profiles are rejected. Responses are displayed. A new session request is created with default values. Sessions are terminated.

Success Criteria:

Service requests are executed successfully. A user session is successfully initiated. User sessions are successfully terminated. Active sessions are not affected by terminated sessions. Status Information on user sessions correctly states the known status of the sessions. User successfully connects to an existing user session with a mouse click. Valid session profiles are accepted. Invalid session profiles are rejected. The appropriate responses are displayed. Parameters which are in the current user profile can be used as defaults in new ECS service requests.

L3 Requirements:

IMS-0050#B, IMS-0100#B, IMS-0140#B, IMS-0180#B, IMS-1300#B

L4 Requirements:

S-CLS-00790, S-CLS-12540, S-CLS-12570, S-CLS-12580, S-CLS-12700, S-CLS-13160, S-CLS-13170, S-CLS-13200, S-CLS-13210, S-CLS-13460, S-CLS-13470

4.2.6.5 Test Case 5: Session Logs (B220.02.5)

This test verifies all activities of a logged session are listed in the log. The user can access their session logs. Logs can be displayed and reviewed. Logs can be copied to a file for later reference.

Test Input:

Session logging is enabled. Input logable actions, including Service Requests, Service Request Status and Notifications. Replay the User Session Log. The session logging is disabled. Input logable actions. Replay the User Session Log. Copy the session log to a file. Display the file.

Test Output:

Interactions of sessions are displayed in the session log when session logging is enabled. No logging is done when the logging is disabled. The session log is copied to a file and redisplayed as a flat file.

Success Criteria:

While session is being logged, interactions displayed in the User Session Log match those performed in the session. Interactions that occurred after logging is disabled are not present in the session log. The session log is successfully copied to a file and saved.

L3 Requirements:

IMS-1300#B

L4 Requirements:

S-CLS-11050, S-CLS-12670, S-CLS-12680, S-CLS-12690

4.2.6.6 Test Case 6: Access Services from Desktop (B220.02.6)

This test demonstrates that the user can access common services from the desktop. e-mail is sent and received, and the user uses the WWW to access USENET and retrieve data.

Test Input:

Create a e-mail icon on the desktop. Use the icon to access the e-mail service, create and mail an e-mail message. Send a message to the user. Access and display the message. Access the internet, search a topic on USENET. Save data to the local workstation.

Test Output:

The e-mail desktop icon accesses the mail service. Mail messages are sent and received. USENET is accessed. Data from USENET is saved at the workstation.

Success Criteria:

The services represented by the icon are correctly displayed on the desktop. The icons access the specified ECS service. The mail is received and displayed. USENET is accessed.

L3 Requirements:

IMS-1600#B, IMS-0120#B

L4 Requirements:

S-CLS-01360, S-CLS-01560, S-CLS-13352

4.2.6.7 Test Case 7: Enhanced Visualization Tools (B220.02.07)

This test demonstrates the capability enhanced data visualization tools to manipulate data in graphical formats. The test verifies a user can display horizontal and vertical profiles, 2-dimensional and multi-dimensional arrays of data, tables of numbers, and overlays. Images can be modified by using the maximum and minimum values of the data, color palettes, and adaptive equalizations. Images can be zoomed and panned. The user can display a series of visualizations as animation, a series of line plots and as two-dimensional color scatter plots. Legends describing the display of a data product can be displayed in each window that the data product is displayed.

Test Input:

Display pseudo color images. Display horizontal and vertical profiles, 2-dimensional and multi-dimensional arrays of data, tables of numbers and overlays. Modify images using data maximum and minimum values, color palettes, and adaptive equalization. Zoom and pan images. Taking the series of visualizations, display in continuous forward, single step forward, single step backward, and oscillating animation. Display 2-dimensional color lineplots and legends for each window.

Test Output:

The pseudo color images, profiles, arrays of data and overlays are displayed. Images are modified using the maximum/minimum values, color palettes, and adaptive equalization. Images are zoomed and panned. The visualizations are animated. The visualization data is displayed as 2-dimensional color scatter plots, lineplots. Legends are displayed in each window.

Success Criteria:

The pseudo color images are properly displayed, modified, zoomed and panned. Displayed overlays are continuous over the display area. The series of visualizations is successfully displayed in continuous forward, single step forward, single step backward and oscillating animation. Lineplots, 2-dimensional color scatter plots, and legends are displayed successfully.

L3 Requirements:

IMS-0510#B, IMS-0580#B, IMS-1520#B, IMS-1530#B, IMS-1540#B, IMS-1550#B

L4 Requirements:

S-CLS-10480, S-CLS-10490, S-CLS-10500, S-CLS-10530, S-CLS-10540, S-CLS-13620, S-CLS-13630, S-CLS-13640, S-CLS-13650, S-CLS-13700, S-CLS-13980

4.2.7 Pull Test 3 (B230.02)

The ECS desktop environment will be utilized to request products and also perform search functions such as graphical data searches to include directory, guide and inventory. Testers will also verify that data access functions such as the capabilities to submit/delete data server subscriptions and distribute data by means of subscriptions can function at a system level. The DAR tool will be tested and DARs will be generated and submitted using the client.

Test Configuration:

- Hardware: Workstation, SDSRV, Data Dictionary DBMS Server, LIMGR Server, Sybase Replication Server, Sybase SQL Server, DIM Server, LIM Server, V0 Gateway, HTTP Server, Advertising Server, DDICT Server
- Software: Desktop manager, WWW browser, Request processing, Mapping Layer, AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, LIMGR CI, Advertising Client Tool, Data Server Interface, DIMGR CI, WKBCH CI, DESKT CI, Data Dictionary Tool, DDICT, Hypertext Authoring Tool, SDSRV CI, STGMT CI, DDSRV CI
- Data: Schema information; populated SDSRV database; Populated Data Dictionary Service Database; Production history; valid values for DAR

parameters; Orbit and Attitude data; Reprocessing, processing, and Spacecraft schedules; User profile containing multiple addresses, including mailing address, billing address and shipping address; Geographic location, Spectral band, Time, and WRS data available for Subsetting, Subsampling and averaging; Service availability status of all ECS services; package information request; Browse image files; Application's startup file; HTML formatted documents; Guide documents; non-EOSDIS data products.

- Tool: Xrunner, HP Open View

4.2.7.1 Test Case 1: Complex Inventory Searches (B230.02.01)

This test demonstrates the ability of the ECS to allow users to construct and perform complex inventory searches. Search criteria will be developed based on user scenarios and will be designed to access a data server. Complex searches consist of a minimum of five search selection criteria as well as Boolean and relational operators. The search criteria will be developed based on user scenarios and data server information. The criteria will be designed to search across multiple data sets, if available, for coincident occurrences of data in space, time, and any other attribute(s) of metadata. The search will be executed and the data returned will be compared with the expected results.

Test Input:

Enter search criteria using the Earth Science Search Tool (ESST) invoked from the desktop. User submits search. Request to view products processing history.

Test Output:

Result screen is displayed containing metadata of granules meeting the search criteria for complex searches. Processing history of products are displayed.

Success Criteria:

This test is considered successful if each inventory search returns the granule metadata of the granules meeting the search criteria. The Client must provide informational messages to users indicating a query is being executed. Errors obtained while the search is being performed must be reported to the user. The inventory search must also provide information concerning product processing schedules and processing history.

L3 Requirements:

IMS-0500#B, IMS-0545#B, IMS-0610#B, IMS-0660#B

L4 Requirements:

S-CLS-10930, S-CLS-10200

4.2.7.2 Test Case 2: Inventory Search Function (B230.02.02)

This test demonstrates the ability of the ECS to allow users to perform simple inventory searches. Search criteria will be developed based on user scenarios and will be designed to

access the ECS Data Server. Several searches will be performed and will be based on the data available in the data server. Search requests will be specific, accessing granules in one data set at a time. All search requests are to be logged.

Test Input:

Search scenarios based on available data. Input will include Source/Platform, Sensor, Geophysical Parameters, Processing Level, Dataset Name, Data Center ID, and Temporal Intervals.

Test Output:

A description of granules in the ECS inventory that satisfy the search criteria. Inventory results include: data set name, platform, sensor, geographical coverage, time range and availability of coverage map and browse. Search requests will also be logged.

Success Criteria:

This test is considered successful if each inventory search returns the granule descriptions of the granules that meet the search criteria. All service requests must be logged as well as the termination or successful completion of service requests.

L3 Requirements:

IMS-0620#B, IMS-0625#B, IMS-0860#B, IMS-0870#B, V0-0060#B, V0-0070#B

L4 Requirements:

S-DMS-30310, S-DMS-30320, S-DMS-30660, S-DMS-30670, S-DMS-30550

4.2.7.3 Test Case 3: Browse Request Functions (B230.02.03)

This test demonstrates the ability of the client to allow users to perform ECS inventory searches and display the associated granule browse images. The tester will execute an ECS inventory search. The search criteria will be developed based on the data available in the ECS Data Server. When the search results are returned the tester will select granules which contain browse images. The tester will then display the browse images for the selected granules.

Test Input:

Search scenario based on available browse data.

Test Output:

Inventory results and associated browse images. Browse images will be displayed.

Success Criteria

This test is considered successful if the browse image is displayed on the screen for the selected granules when requested. The client must also provide messages to the users indicating the status of the query.

L3 Requirements:

IMS-0620#B, IMS-0625#B, IMS-0870#B, NOAA-0300#B, NOAA -0620#B, V0-0100#B, V0-0110#B

L4 Requirements:

S-DMS-30340, S-DMS-30345, S-DMS-30690, S-DMS-30695, S-DMS-30550.

4.2.7.4 Test Case 4: Accumulated Search Status for Active Search (B230.02.04)

This test verifies the capability to accept Search Status Requests for a specified active Search Request. Additionally, this test provides, when requested, all Search Results accumulated for that Search Request. This test also verifies the ability to identify all Search Requests accumulated since the last Search Status Request for a specified Search Request. The workbench will poll the status of a Search Request at a user selectable time interval.

Test Input:

A series of search requests. A Search Status Request for a specified active Search Request. Request the workbench to poll the status of a Search Request at a user selectable time interval. A Request for accumulative Results for that search and a Request for Search Results accumulated since the last Search Status Request for that Search Request.

Test Output:

Search Status Request results for specified active Search Request and accumulated Search Status Request results. Status of Search Requests are displayed.

Success Criteria:

All Search Status Requests submitted are successfully received and results are successfully returned to the requester. Results are compared to a monitored log for accuracy. The user is able to request an update of the status of a previously submitted Search Request. The workbench successfully polls the status of a Search Request at a user selectable time interval.

L3 Requirements:

IMS-0665#B, IMS-1300#B

L4 Requirements:

S-DSS-00115, S-DSS-00116, S-CLS-13730, S-CLS-13740

4.2.7.5 Test Case 5: Search Production History (B230.02.05)

This test verifies that the user can search production history on any combination of production history metadata attributes.

Input:

Production history is present. Search production history on any combination of production history metadata attributes. Display search results.

Output:

Search results are returned and displayed.

Success Criteria:

The user successfully searched production history on any combination of production history metadata attributes.

L3 Requirements:

IMS-0500#B, IMS-0545#B, IMS-0930#B

L4 Requirements:

S-CLS-10200, S-CLS-13550

4.2.7.6 Test Case 6: Guide Search Functions (B230.02.06)

This test demonstrates the ability of the Client to provide access to guide information. On-line documents will be accessed by browsing through available listings of guide documents and selecting specific documents for review. Documents will also be selected by entering a key word and performing a search on the key word. Several documents will be selected for display by browsing and by searching on key words.

Test Input:

Document search criteria. Search criteria will be valid and invalid.

Test Output:

Guide Documents are returned. Error messages are displayed.

Success Criteria:

This test is considered successful if the specified guide documents are displayed on the screen after a valid document search. The guide documents must be readable and must correspond to the selected browse listing or the keywords used for searching. The client must display appropriate error messages for searches that are performed but can not be satisfied.

L3 Requirements:

IMS-0870#B

L4 Requirements:

S-DMS-30550

4.2.7.7 Test Case 7: Data Dictionary Information (B230.02.07)

This test verifies that data dictionary information is received by the client. The user can search the data dictionary to obtain the precise definitions of terms used within ECS. The user can send data dictionary search requests, consisting of any combination of earth science data types, core metadata attributes, and product specific metadata. The user can access data definitions. Earth

science data types and services descriptions, core metadata attribute definitions, valid values, synonyms for valid values, and product specific metadata will be accessed.

Input:

Enter Data dictionary search requests. Requests consist of a combination of earth science data types, core metadata attributes, and product specific metadata. Access earth science data types and services descriptions, core metadata attribute definitions, valid values, synonyms for valid values, and product specific metadata.

Output:

Requests are sent to the data dictionary. Results from the search are returned to the client. Information requested is accessed and displayed.

Success Criteria:

Data dictionary search requests are successfully generated by the client and sent to the data dictionary server. Data dictionary search results are received by the client. The data dictionary can be searched to obtain the precise definitions of terms used within ECS. The user can access data definitions requested.

L3 Requirements:

EOSD5010#B, EOSD5060#B, IMS-0320#B, IMS-0500#B

L4 Requirements:

S-CLS-10730, S-CLS-14530, S-CLS-14590, S-CLS-14600

4.2.7.8 Test Case 8: DAR Parameters (B230.02.08)

This test verifies the functions involved with DAR parameters. The user can view valid values for DAR parameters. The user can retrieve any previously saved DAR parameter into a new DAR, edit the parameters, save the modified parameters, and/or submit the new DAR. DAR parameters are constraint checked and validated. A DAR disposition is provided in response to the submittal of a DAR. Instrument specific default settings for DAR instrument configurable parameters are provided. The user can parameterize ASTER DARs with ASTER DAR parameters.

Input:

Valid values for DAR parameters are present. View valid values. Save DAR parameters. Retrieve DAR parameters into new DAR. Edit parameters. Save modified parameters. Submit the new DAR. Submit DARs with valid and invalid parameters. Display DARs that contain instrument configurable parameters. ASTER DAR parameters are present. Parameterize ASTER DARs.

Output:

Valid values are displayed. DAR parameters are saved. DAR parameters are displayed in new DAR. DAR parameters are saved again. DAR is submitted. Invalid parameters are rejected and a

response message is displayed. Valid parameters are accepted. DAR disposition is provided. DARs are displayed. ASTER DARs are displayed.

Success Criteria:

Valid values for DAR parameters are successfully viewed. Previously saved DAR parameters are successfully brought into a new DAR, edited, and saved. DARs are successfully submitted. DAR parameters are successfully constraint checked and validated. DAR disposition is provided in response to the submittal of a DAR. Instrument specific default settings for DAR instrument configurable parameters are provided. ASTER DARs are successfully parameterized using ASTER DAR parameters.

L3 Requirements:

IMS-1070#B, IMS-1160#B, IMS-1170#B, IMS-1190#B, IMS-1195#B, IMS-1180#B, IMS-1230#B, IMS-0120#B

L4 Requirements:

S-CLS-13790, S-CLS-13880, S-CLS-13890, S-CLS-13900, S-CLS-13920, S-CLS-14440

4.2.7.9 Test Case 9: Synchronization in the DAR Tool (B230.02.09)

This test verifies synchronization in the DAR tool. Time-related data for DARs will be synchronized. Selection of a time range on a DAR timeline tool will be translated into date/time ranges in a DAR submission window. Typing a date/time range in a DAR submission window will be graphically displayed as a blocked out time range on a DAR timeline window. Geographic selection criteria will be synchronized. Selection of an area on a DAR map display will be translated into lat/long coordinates in a DAR submission window. Typing lat/long coordinates in a DAR submission window will be graphically displayed as a blocked out area on a DAR map display.

Input:

Display DAR submission window. Display DAR timeline window. Enter date/time ranges in DAR submission window. Select time range on DAR timeline tool. Display DAR map display. Enter lat/long coordinates in DAR submission window. Select area on DAR map display.

Output:

For date/time range entries the DAR timeline window is updated. For selection of time ranges the DAR submission window is updated. For lat/long coordinate entries the DAR map display is updated. For selection of area the DAR submission window is updated.

Success Criteria:

Time-related data in the DAR timeline window and in the DAR submission window is synchronized. Geographic data in the DAR map display and in the DAR submission window is synchronized.

L3 Requirements:

IMS-0510#B, IMS-1140#B, IMS-1070#B

L4 Requirements:

S-CLS-14400, S-CLS-14410, S-CLS-14420, S-CLS-14430

4.2.7.10 Test Case 10: DAR Tool (B230.02.10)

This test verifies the functionality of the DAR tool. EOS-AM spacecraft location projections are provided as a reference aid to the creation of ASTER DARs. The user can access the guide during DAR formulation and submittal. Visualizations of ASTER instrument nominal view swaths and non-nominal view swaths are provided. View swaths are based on user supplied angles and are used as a reference aid in the creation of ASTER DARs. Data acquisition schedules and plans are accessible to authorized users on request. Testing will be performed to show unauthorized users do not have access to data acquisition schedules and plans.

Input:

Display DAR submission window. Display EOS-AM spacecraft location projections. Access the guide. Display ASTER instrument nominal and non-nominal view swaths. Supply a variety of view angles. Authorized and unauthorized users request data acquisition schedules and plans. Complete and submit DARs.

Output:

DAR submission window, EOS-AM spacecraft location projections, guide, view swaths are displayed. Requests from authorized users are accepted. Schedules and plans are displayed. Requests from unauthorized users are rejected. Response messages are returned. DARs are submitted. Response message is displayed.

Success Criteria:

The DAR submission window and EOS-AM spacecraft location projections can be displayed at the same time. The EOS-AM spacecraft location projections are provided as a reference aid to the creation of ASTER DARs. The guide is successfully accessed while the DAR is formulated and submitted. The nominal and non-nominal view swaths are correctly displayed based on the supplied angles. The view swaths are successfully used as a reference aid in the creation of ASTER DARs. Authorized users successfully access data acquisition schedules and plans. Unauthorized users are denied access. Data acquisition schedules are displayed as timelines.

L3 Requirements:

IMS-0120#B, IMS-1130#B, IMS-1150#B, IMS-1170#B, IMS-0500#B, IMS-0510#B, IMS-1140#B, IMS-0280#B, ASTER-0010#B, IMS-1100#B

L4 Requirements:

S-CLS-13830, S-CLS-13850, S-CLS-13860, S-CLS-13870, S-CLS-10870, S-CLS-13250, S-CLS-13840

4.2.7.11 Test Case 11: DAR Requests (B230.02.11)

This test verifies functions associated with DAR submittal. The user can construct a product request associated with a DAR. The user can view the DARs recorded in the user session log. DAR status is displayed when requested by the user. The user can issue a subscription request associated with a DAR. The user can submit updates to existing DARs. The operations staff can display and list outstanding DARs accessible to that Data Server. DARs for ASTER observational sequences will be sent to the ASTER GDS.

Input:

Display DAR submission window. Formulate DARs. Construct a product request associated with a DAR. Issue a subscription request associated with a DAR. Submit the product request and the DAR. Submit a number of DARs. Display the user session logs. DARs are in a variety of states. Submit updates to DARs. Request DAR status. Operational commands are submitted for display of outstanding DARs. Some of the DARs are ASTER observational sequences.

Output:

The DAR submission window is displayed. DARs are formulated. A product request is constructed, associated with a DAR and submitted. A subscription request is issued, associated with a DAR. Response messages are displayed. DAR submittal is recorded in user session logs. User session logs are displayed. Updates are accepted for existing DARs. Request for DAR status is accepted. DAR status is displayed. Outstanding DARs are displayed.

Success Criteria:

A product request is successfully constructed and associated with a DAR. A subscription request is successfully issued and associated with a DAR. All DARs submitted are successfully viewed in user session log. Existing DARs are successfully updated. DAR status is displayed to the user upon request. The operational staff can successfully display DARs that are outstanding. DARs for ASTER observational sequences are sent to the ASTER GDS.

L3 Requirements:

IMS-1071#B, IMS-1072#B, IMS-1210#B, IMS-1220#B, IMS-1090#B, IMS-1300#B, IMS-1320#B, ASTER-0110#B, ASTER-0120#B, IMS-1260#B, IMS-0140#B, IMS-0280#B, IMS-0665#B, IMS-0740#B, IMS-0920#B, IMS-1080#B, IMS-1230#B, IMS-1650#B, IMS-1700#B

L4 Requirements:

S-CLS-13800, S-CLS-13820, S-CLS-13940, S-CLS-13960, S-CLS-14450, S-CLS-15990, S-CLS-16000, S-CLS-16010, S-DSS-04730, S-DSS-04740, S-DSS-04760, S-DSS-04745

4.2.7.12 Test Case 12: Data Request Processing (B230.02.12)

This test verifies that the user can submit data requests for Attitude and Repaired Orbit Data. The user can delete their own queued Data Request. The user can access compound data type services.

Test Input:

Submit series of Data Requests for attitude and repaired orbit data. Delete a few Data Requests that are still being processed. Request access to compound data type services.

Test Output:

Data Requests are received and properly logged. Data Requests are deleted from the Data Request queue. Compound data type services are accessed.

Success Criteria:

All Data Requests submitted are successfully received and logged. Data Requests are successfully deleted by the user and are no longer in the queue. Access is successfully granted to compound data type services.

L3 Requirements:

DADS0175#B, DADS1010#B, DADS0525#B, IMS-0030#B, IMS-0550#B

L4 Requirements:

S-DSS-00270, S-DSS-00280, S-DSS-00200, S-DSS-01790

4.2.7.13 Test Case 13: Distribution Requests (B230.02.13)

This test verifies distribution request functionality. The user can request standard product software and associated documentation to be distributed off-line and on-line. The user can request inclusion of universal references to the appropriate documentation for the requested data, the tools needed to read the requested data, and an ASCII file describing each of these references. The user can update distribution requests prior to the shipment of data. The user can issue subscription requests for revisions of given documents. The user can issue subscription requests for new documents, based on topical keywords. The user can preview billing costs for non-EOSDIS data products prior to data request submission. When a user submits a distribution request, they shall be given an opportunity to review the total amount that will be billed for the order and affirm, cancel or modify the search request. The desktop will issue periodic distribution status requests for a user-specified distribution request, at time intervals specified by the user. Product delay notification will be provided to the user when products will not be distributed within the estimated time.

Input:

Submit a number of distribution requests. Some of the requests will not be distributed within the estimated time. Half of the requests ask for off-line distribution and the other half asks for on-line distribution. For data requests, request inclusion of universal references to the appropriate documentation for the requested data, the tools needed to read the requested data, and an ASCII file describing each reference. Submit an update to distribution requests prior to the shipment of data. Submit an update to distribution requests after the shipment of data. Submit an invalid update. A number of documents are present in the system. Submit a number of requests for revisions of given documents. Submit a number of requests for new documents based on topical keywords. Complete data request for non-EOSDIS data products. Request to preview billing

costs. Affirm, cancel and modify a number of EOSDIS search requests after reviewing the total amount that will be billed.

Output:

Requests are submitted and accepted. A response message is returned. Valid updates are accepted. Invalid updates are rejected. Response messages are returned. Preview of billing costs is provided. EOSDIS search requests are affirmed, canceled or modified according to request. Desktop issues periodic distribution status request. Responses are returned. Notification is displayed to the user. Data products are returned to the user electronically.

Success Criteria:

The user can successfully request standard product software and associated documentation to be distributed off-line or on-line. The data requests successfully included the request for universal references to the appropriate documentation for the requested data, the tools needed to read the requested data, and an ASCII file describing each of these references. Confirmation messages are received. The user can successfully update distribution requests prior to the shipment of data. The user can successfully issue subscriptions to request revisions of a given document. The user can successfully issue subscriptions to request new documents based on topical keywords. The user can successfully preview billing costs of non-EOSDIS data products prior to data request submission. The user can successfully review the total amount that will be billed for an order and affirm, cancel or modify the search request. The desktop successfully issues periodic distribution status requests for a user-specified distribution request, at time intervals specified by the user. The user is successfully provided product delay notification when products will not be distributed within the estimated time. Requested data products are successfully sent to the requesting client electronically.

L3 Requirements:

IMS-1350#B, IMS-0750#B, IMS-0740#B, IMS-1010#B, IMS-1340#B, DADS2370#B, IMS-0915#B, IMS-0830#B, IMS-0970#B

L4 Requirements:

S-CLS-10230, S-CLS-10970, S-CLS-10980, S-CLS-11140, S-CLS-11170, S-CLS-13600, S-CLS-13610, S-CLS-13760, S-CLS-13770, S-CLS-13780, S-CLS-15660, S-CLS-13750, S-CLS-11150

4.2.7.14 Test Case 14: Production Requests (B230.02.14)

This test verifies that the user can construct and submit production requests. The user will be provided with confirmation or rejection of their requests. Confirmation or rejection will contain requester identification, request identification, request status, and the reason for rejection if rejected. The user can request priority processing of production requests. The user will automatically be provided with estimates of how long it will take before products are ready for delivery and the amount of data expected to be returned as the result of a product request. The users can display processing schedules. The user will receive a data request status at the conclusion of the processing of a data request. The user can determine the reprocessing status of

products which are being reprocessed. Notification will be provided to the user when processing will not be completed within the estimated time.

Input:

Construct and submit a variety of production requests. Requests contain mailing, billing and shipping addresses. Production requests will contain valid and invalid requests. Request priority processing for a variety of production requests. Processing schedules are present. Display processing schedules. Several of the data requests conclude processing. A number of products are being reprocessed. Request reprocessing status of products. A number of the requests will not be completed within the estimated time.

Output:

Production requests are constructed. Production requests are submitted. Confirmation or rejection is returned to user. Estimates of how long before product is ready for delivery are sent and displayed. Messages indicating the amounts of data expected to be returned are sent and displayed. Processing schedules are displayed. A data request status is received and displayed. Reprocessing status is displayed. Notification is displayed to the user.

Success Criteria:

Production requests are successfully constructed and submitted. Confirmation or rejection is returned to the user. Confirmation or rejection contains requester identification, request identification, request status, and the reason for rejection if rejected. Priority processing is successfully requested for production requests. Once a product request is successfully submitted, time estimates of how long it will take before the products are ready for delivery and messages indicating the amounts of data expected to be returned are automatically sent to the user. Processing schedules are successfully displayed. The user successfully receives a data request status at the conclusion of the processing of a data request. The user can successfully determine the reprocessing status of products which are being reprocessed. The user is successfully provided notification when processing will not be completed within the estimated time. Multiple addresses are successfully entered for product requests, which include mailing address, billing address and shipping address.

L3 Requirements:

IMS-0730#B, IMS-0540#B, IMS-0665#B, IMS-0840#B, IMS-1040#B, IMS-1050#B, IMS-0920#B, IMS-0960#B, IMS-1010#B, IMS-1300#B, IMS-1330#B, IMS-0800#B, IMS-0820#B, IMS-0050#B

L4 Requirements:

S-CLS-10250, S-CLS-10860, S-CLS-11020, S-CLS-11030, S-CLS-11040, S-CLS-11130, S-CLS-11160, S-CLS-11170, S-CLS-11210, S-CLS-15820, S-CLS-15830, S-CLS-15840, S-CLS-15900, S-CLS-11010

4.2.7.15 Test Case 15: Subsetted, Subsampled and Summary Products (B230.02.15)

This test verifies that the user can construct and submit production requests for processing of subsetted, subsampled, and summary products based on geographical location (x, y, z - spatial with rectangular boundaries), spectral band, time, and World Wide Reference System (WRS). Requested products will be sent to the requesting client.

Input:

Construct and submit a variety of production requests. Production requests will include processing of subsetted, subsampled, and summary products based on geographical location, spectral band, time, and WRS.

Output:

Production requests are constructed. Production requests are submitted. Confirmation is returned to user. Subsets, subsamples and average products are produced. Notification is displayed to the user.

Success Criteria:

Production requests are successfully constructed and submitted. Confirmation is returned to the user. Confirmation contains requester identification, request identification, request status. Subsets, subsamples, and average products are produced for the user requested granules based upon Geographic location, Spectral Band, Time, and WRS.

L3 Requirements:

IMS-0720#B, DADS0590#B, DADS0740#B, DADS1475#B, IMS-0705#B

L4 Requirements:

S-CLS-11220, S-CLS-11230, S-CLS-11240, S-DSS-02901, S-DSS-02902, S-DSS-02903, S-DSS-02904

4.2.7.16 Test Case 16: Synchronization in the Product Request Tool (B230.02.16)

This test verifies synchronization in the Product Request tool. Geographic selection criteria will be synchronized. Selection of an area on a product request map display will be translated into lat/long coordinates in a product request submission window. Typing lat/long coordinates in a product request submission window will be graphically displayed as a blocked out area on a product request map display. Time-related data for product requests will be synchronized. Selection of a time range on a product request timeline tool will be translated into date/time ranges in a product request submission window. Typing a date/time range in a product request submission window will be graphically displayed as a blocked out time range on a product request timeline window.

Input:

Display product request submission window. Display product request map display. Enter lat/long coordinates in product request submission window. Select area on product request map display.

Display product request timeline window. Enter date/time ranges in product request submission window. Select time range on product request timeline tool.

Output:

For lat/long coordinate entries the product request map display is updated. For selection of area the product request submission window is updated. For date/time range entries the product request timeline window is updated. For selection of time ranges the product request submission window is updated.

Success Criteria:

Geographic data in the product request map display and in the product request submission window is synchronized. Time-related data in the product request timeline window and in the product request submission window is synchronized.

L3 Requirements:

IMS-0510#B, IMS-0640#B

L4 Requirements:

S-CLS-14480, S-CLS-14490, S-CLS-14500, S-CLS-14510

4.2.7.17 Test Case 17: Spacecraft Schedules (B230.02.17)

This test verifies that authorized users can access spacecraft schedules on request. Invalid requests from unauthorized users will be rejected. Spacecraft schedules will be displayed as timelines.

Input:

Spacecraft schedules are present in the system. Authorized and unauthorized users request spacecraft schedules. Display spacecraft schedules.

Output:

Requests are submitted. Authorized users are given access to the spacecraft schedules. Unauthorized user's requests are rejected. Response messages are returned. Spacecraft schedules are displayed.

Success Criteria:

Only authorized users can successfully access spacecraft schedules. Spacecraft schedules are successfully displayed as timelines. Unauthorized users receive an error message when trying to access spacecraft schedules.

L3 Requirements:

EOSD2400#B, IMS-0280#B

L4 Requirements:

S-CLS-14460, S-CLS-14470

4.2.7.18 Test Case 18: Conflict Adjudication (B230.02.18)

This test verifies that the user can submit a conflict adjudication request to the SMC, in the event a processing conflict cannot be resolved by the data server, the science user, and the data processing subsystem. A conflict adjudication response will be provided from the SMC after submitting a conflict adjudication request.

Input:

Product request conflicts are present. Submit a conflict adjudication request to the SMC.

Output:

Conflict adjudication request is created and submitted to the SMC. A conflict adjudication response is returned from the SMC.

Success Criteria:

A conflict adjudication request is successfully submitted in response to a conflict. A conflict adjudication response is successfully returned from the SMC.

L3 Requirements:

IMS-1020#B, IMS-1030#B, SDPS0015#B

L4 Requirements:

S-CLS-11190, S-CLS-11200, S-CLS-15850, S-CLS-15860

4.2.7.19 Test Case 19: Multi-Platform Support (B230.02.19)

This test verifies that workbench and desktop executables can be run on DEC Digital Unix 4.0, HP UX 10.01, SGI IRIX 6.2, and IBM RS/6000 AIX 4.1 hosts.

Input:

Run workbench and desktop executables on DEC Digital Unix 4.0, HP UX 10.01, SGI IRIX 6.2, and IBM RS/6000 AIX 4.1 hosts.

Output:

Executables are run. Logs are collected.

Success Criteria:

Executables are run successfully on DEC Digital Unix 4.0, HP UX 10.01, SGI IRIX 6.2, and IBM RS/6000 AIX 4.1 hosts.

L3 Requirements:

IMS-1510#B

L4 Requirements:

S-CLS-01492, S-CLS-15682

4.2.7.20 Test Case 20: Event Notification (B230.02.20)

This test verifies that the gateway provides the following notification functionalities: notification of events associated with sessions (i.e., when request exceeds a specified threshold); notification of events associated with service requests which require additional instructions (i.e., when resources exceeds the specified threshold); entry points to be used to respond to notification of events which require instructions to be returned to the LIM; accept and utilize the entry point to be used for asynchronous notification in asynchronous service requests; disable asynchronous notification, and provide default instructions for such notification events; accept notification of events associated with other services; and accept instructions associated with responses to notifications of events.

Test Input:

Log onto the ECS system. Invoke the ECS GUI. Activate an icon to initiate a session that requires additional instructions. Respond the notifications to LIM. Enter an entry point for asynchronous notifications in asynchronous service request. Activate an icon to disable the asynchronous notifications. Activate an icon to initiate a session with other services. Activate an icon to initiate a service request with other services. Respond to the notification of events. Display the client user session logs.

Test Output:

The gateway will generate the notifications and transmit to users. Activity is recorded in the client user session logs.

Success Criteria:

The gateway generates correct notification of events associated with service request and sessions. Notifications are successfully logged in the client user session log.

L3 Requirements:

IMS-0100#B, IMS-0140#B, IMS-1300#B

L4 Requirements:

S-DMS-30800, S-DMS-30805, S-DMS-30810, S-DMS-30820, S-DMS-30830, S-DMS-30840, S-DMS-30845, S-DMS-30850, S-CLS-12670

4.2.7.21 Test Case 21: HTML Function (B230.02.21)

This test verifies that the user can create documents in HTML and HTML3 format.

Test Input:

Log onto the ECS system and invoke the GUI for the Hypertext Authoring Tool. Create documents in HTML & HTML3 format. Save documents.

Test Output:

Documents saved in HTML and HTML3 format.

Success Criteria:

The user can successfully create and view the document in HTML and HTML3 format.

L3 Requirements:

IMS-0150#B, IMS-0535#B, IMS-0410#B

L4 Requirements:

S-DMS-20360, S-CLS-11285

4.2.7.22 Test Case 22: Subscription functions (B230.02.22)

The following test demonstrates the ability to support the creation of subscriptions, and to cancel, renew, update and list the contents of subscription including standing requests. Other subscription functions include being able to update, terminate and modify subscriptions for on demand processing.

Test Input:

From the GUI interface, select options to create, cancel, renew, update, list and submit subscription requests for periodic delivery of data and On-demand processing.

Test Output:

Subscriptions are deleted, created, canceled, renewed, updated, listed and submitted as per request for periodic delivery of data and On-demand processing. The administrative log reflects an entry for each of the above functions.

Success Criteria:

This test is considered successful when the subscription request functions create, cancel, renew, update, list and submissions are successfully performed for periodic deliveries, on-demand processing. Functions performed are accurately logged in the administrative log.

L3 Requirements:

IMS-0740#B, IMS-0670#B, IMS-0920#B, IMS-0980#B, IMS-0950#B, IMS-1080#B, IMS-1310#B

L4 Requirements:

S-CLS-10950, S-CLS-11000, S-CLS-11250, S-CLS-11260, S-CLS-11270, S-CLS-11280, S-CLS-14240, S-CLS-13810

4.2.7.23 Test Case 23: Advertising Service Functions (B230.02.23)

The following test verifies the capability to perform advertising service functions. The administrator will be capable of manipulating the advertising data by being able to create, edit and delete advertising postings for user subscriptions.

Test Input:

Interface to create, edit, delete posted advertisement data.

Test Output:

Advertising Information is created, edited and delete posted for user subscriptions. Event log contains an entry for the activation of the create, edit and post access.

Success Criteria:

This test is considered successful when the user is able to create, edit and delete posted advertising about a product.

L3 Requirements:

IMS-0030#B, IMS-0220#B, IMS-0360#B, IMS-0390#B

L4 Requirements:

S-DMS-00750

4.2.7.24 Test case 24: Service Availability Status (B230.02.24)

This test verifies that a user can view the service availability status of all ECS services.

Test Input:

Populate the system with services with varying degrees of availability. Display the service availability status of all ECS services.

Test Output:

Service availability status is displayed.

Success Criteria:

The Service availability status is displayed and correctly indicates the status of available ECS services.

L3 Requirements:

IMS-0020#B

L4 Requirements:

S-CLS-13060

4.2.7.25 Test Case 25: Client Sessions (B230.02.25)

This test verifies the capability to suspend, resume, and terminate client sessions. Client user will enter a Suspend Request to suspend processing of a client session. The client user will enter a Resume Request to resume any or all active or suspended client sessions previously initiated by the client. Resume Requests for active sessions will be rejected. The client user will terminate any or all active or suspended client sessions previously initiated by the client. All session activity will be logged in the client user session logs.

Test Input:

Several sessions are created. A suspend command is submitted for a session. A suspend command is submitted for some of the active sessions. Resume Request is submitted for several of the suspended and active sessions. Termination Requests are submitted for several active and suspended sessions.

Test Output:

Notification of suspension is sent to the requester. Log suspended session. Notification of resumption is sent to requester. Error messages are returned for invalid resumption requests. Log resumed sessions. Notification of termination is sent to requester. Log terminated sessions.

Success Criteria:

Sessions are successfully suspended. Client is notified of suspended session. Valid requests for resumption of suspended sessions are accepted and the appropriate sessions are resumed. Requests for resumption of active sessions are rejected and error messages are displayed and logged. All requested termination of sessions are accepted and successfully terminated. Complete and accurate notifications are sent to the requester. Session activities are logged.

L3 Requirements:

DADS0700#B, IMS-0140#B, IMS-1300#B, IMS-0120#B

L4 Requirements:

S-DSS-00290, S-DSS-01220, S-DSS-01440, S-DSS-00300, S-DSS-01310, S-DSS-01330, S-DSS-01440, S-CLS-13160, S-CLS-13200, S-CLS-13170, S-CLS-13240

4.2.7.26 Test Case 26: Client executes with Mode Management (B230.02.26)

This test verifies the capability of simultaneous, non-interfering application execution in operational and test modes that can be accessed by the clients and can maintain modal data integrity. This test verifies that applications with different modes can execute simultaneously on the same workstations and that the applications can execute simultaneously from different workstations. This test verifies that a simulated time can be used in the test mode and that the mode type is recorded in the transaction log.

Test Input:

Log onto the ECS system on two client workstations. On one workstation, create an application's home directory in the operational mode and configure the application's startup file with operation mode ID (ops). Bring up the application process in the operational mode. Repeat the actions to start application processes with a test mode ID (ts1 and ts2) on both client workstations. For the application on the second workstation, use a different time value for the test mode. Using the three applications, simultaneously access databases which have matching operational or test mode IDs. Attempt to change the mode identifier of an application. Check the transaction logs for the mode identifier.

Test Output:

HP OpenView shows that applications are running in the selected operational and test modes. Both operational and test data are simultaneously retrieved by the three applications. A simulated time is displayed for the “ts2” test mode. The mode of the application is not changed. The session logs are displayed.

Successful Criteria:

HP OpenView shows the successful initialization and concurrent execution of the operational and test modes. The client processes can link to appropriate server applications. Data integrity is maintained. The modes of the retrieved data match the modes of the requesting applications. Applications in different modes execute simultaneously on the same and different workstations. The application operates correctly using a simulated time. The mode of an application cannot be reset after start-up. The mode is correctly displayed in the session logs.

L3 Requirements:

SDPS0140#B, EOSD0510#B, EOSD0630#B, EOSD0710#B

L4 Requirements:

S-CLS-01700, S-CLS-01710, S-CLS-01740, S-CLS-01750, S-CLS-01760, S-CLS-01770, S-CLS-01780, S-CLS-01790, S-CLS-17100, S-CLS-17110, S-CLS-17140, S-CLS-17150, S-CLS-17160, S-CLS-17170, S-CLS-17180, S-CLS-17190

4.2.7.27 Test Case 27: DMS Mode Management (B230.02.27)

This test verifies that the capability of DMS to execute in both operational and test modes simultaneously and maintain data integrity. Each application must register within their mode-associated namespace prior to execution. This test verifies that applications with different modes can execute simultaneously on the same workstations and that the applications can execute simultaneously from different workstations. This test verifies that a simulated time can be used in the test mode and that the mode type is recorded in the transaction log.

Test Input:

Log onto the ECS system. Create application’s home directory of operational mode, configure application’s startup file with Operation mode ID (ops). Bring up the application process in the operational mode, read and write data from and to the database. Repeat the actions with test mode directory and mode ID (ts1), and bring up the application in the test mode on the same machine as the operational mode. Verify the data read from the test mode database is not retrieved from the operational mode database. Verify the data written from the test mode database is not entered to the operational mode database. Attempt to change the mode of the operational and test environments. Repeat the test bringing up the test mode on a different machine than the operational mode is utilizing. Utilize a simulated time value for this test mode.

Test Output:

HP OpenView shows that applications are running in the selected operational and test modes. In the test mode, the data retrieved is from the test mode database.

Successful Criteria:

HP OpenView shows the successful initialization and concurrent execution of the operational and test modes. The data management processes can link to appropriate server applications. Data integrity is maintained. The mode is correctly displayed in the session logs. The simulated time entered for test mode will be accepted and accurately utilized as the system time for that test mode environment. The mode (operational or test) will not be changeable.

L3 Requirements:

SDPS0140#B, EOSD0510#B, EOSD0630#B, EOSD0710#B

L4 Requirements:

S-DMS-01090, S-DMS-01091, S-DMS-01094, S-DMS-01095, S-DMS-01096, S-DMS-01097, S-DMS-01098, S-DMS-01099, S-DMS-11080, S-DMS-11081, S-DMS-11084, S-DMS-11085, S-DMS-11086, S-DMS-11087, S-DMS-11088, S-DMS-11089, S-DMS-23920, S-DMS-23921, S-DMS-23924, S-DMS-23925, S-DMS-23926, S-DMS-23927, S-DMS-23928, S-DMS-23929, S-DMS-32020, S-DMS-32021, S-DMS-32024, S-DMS-32025, S-DMS-32026, S-DMS-323027, S-DMS-32028, S-DMS-32029, S-IOS-60370, S-IOS-60371, S-IOS-60374, S-IOS-60375, S-IOS-60376, S-IOS-60377, S-IOS-60378, S-IOS-60379

4.2.7.28 Test Case 28: Maps (B230.02.28)

This test verifies that map displays shall provide the following types of geographic data sets for background reference: land/oceans, major lakes, major rivers, mountain ranges, volcanoes, major highways and railroads, urban and built-up areas, and political boundaries.

Input:

Display Maps for a variety of areas.

Output:

Maps are displayed.

Success Criteria:

Maps successfully display land/oceans, major lakes, major rivers, mountain ranges, volcanoes, major highways and railroads, urban and built-up areas, and political boundaries.

L3 Requirements:

IMS-0580#B

L4 Requirements:

S-CLS-15890

4.2.8 Push Test 4 (B240.02)

This push test will test the capability to perform the following functions:

- test the capability to perform media ingest for the DAACs.

- populate guides and inventories with data and automatically update and insert metadata into the inventories.
- testing is also performed to test planning and processing functions such as generating accounting information for distributed data, prioritization of distributed requests and scheduled adjustments.
- test the capability to perform mode management.

4.2.8.1 Test Case 1: DAAC Media Ingest Test (B240.02.01)

This test verifies that the Ingest software is capable of ingesting data which will be provided by the EDOS on 8mm or 4mm tape media for GSFC, LaRC EDOS, EDC ASTER GDS, EDC Landsat 7 IGS.

Test Configuration:

- Hardware: workstation, CD-ROM, 8 and 4mm tapes, 9 track magnetic tape, 4mm digital audio tape, and 3490
- Software: INGST
- Data: IGS metadata & browse data, CERES, MISR, MOPITT, MODIS and ASTER
- Tools: Interface with above listed data types (real or simulated)

Test Input:

A series of data is submitted on media. Invoke ingesting of data (mount media).

Test Output:

Media is mounted and accessed. Data is retrieved from the media and written to the staging disk.

Success Criteria:

For every Ingest Request the data is successfully copied and placed on the staging disk.

L3 Requirements:

DADS0130#B, DADS0200#B, SDPS0020#B, DADS0170#B, EOSD0030#B, EOSD1607#B, EOSD1608#B, LAND-0090#B, LAND-0100#B, DADS0170#B, EOSD0030#B, EOSD1607#B, EOSD1608#B, LAND-0010#B

L4 Requirements:

S-INS-00600, S-INS-00610, S-INS-00790, S-INS-00787, S-INS-00785

4.2.8.2 Test Case 2: Data Receipt and Storage Test (B240.02.02)

This test verifies the capability of the Science Data Server to receive and store the following types of data supplied by Ingest:

- LO-L4 data

- Ancillary data
- Metadata associated with Ancillary data
- FDF Orbit data (AM-1 instruments)
- FDF Metadata for Orbit and Attitude data (AM-1 instruments)
- Real EOS instrument data to support pre-launch checkout of the ground system
- Simulated EOS instrument data to support pre-launch checkout of the ground system

This test assumes that the DAAC Media Ingest Test (B240.02.01) was executed prior to performing this test.

Test Configuration:

- Hardware: workstation
- Software: SDSRV, STMGT
- Data: L0-L4 data, Ancillary data and associated metadata, AM-1 Orbit data, AM-1 FDF Metadata for Orbit and Attitude data, Real EOS instrument data, Simulated EOS instrument data,
- Tools: Interface with Ingest data sources (real or simulated).

Test Input:

A series of Service Requests are submitted to receive and store L0-L4 data, Ancillary data and associated metadata, AM-1 Orbit data, AM-1 FDF Metadata for Orbit and Attitude data, Real EOS instrument data, and Simulated EOS instrument data.

Test Output:

Status messages indicating successfully receipt and storage of the L0-L4 data, Ancillary data and associated metadata, AM-1 Orbit data, AM-1 FDF Metadata for Orbit and Attitude data, Real EOS instrument data, and Simulated EOS instrument data.

Success Criteria:

Each Request submitted is accepted and processed. The L0-L4 data, Ancillary data and associated metadata, AM-1 Orbit data, AM-1 FDF Metadata for Orbit and Attitude data, Real EOS instrument data, and Simulated EOS instrument data.

L3 Requirements:

DADS0120#B, DADS0130#B, DADS0140#B, DADS0145#B, DADS0170#B, DADS0175#B, DADS0190#B, DADS0210#B, DADS0260#B, DADS0281#B, DADS0282#B, DADS0440#B

L4 Requirements:

S-DSS-03002, S-DSS-03004, S-DSS-03006, S-DSS-03050, S-DSS-03060, S-DSS-03100, S-DSS-03122, S-DSS-03124, S-DSS-03460, S-DSS-03470, S-DSS-03492, S-DSS-03494, S-DSS-20450, S-DSS-20457, S-DSS-20460, S-DSS-20465

4.2.8.3 Test Case 3: Science Software Archive Packages (B240.02.03)

This test verifies that the Algorithm Integration and Test Tool (AITTL) provides the operations staff, via a GUI, the capability to display a list of the Science Software Archive Packages (SSAP) in the data server, as well as add and delete SSAPs to/from the data server. It will be possible to add an SSAP to the data server by manually issuing the commands or by using a script file which contains the input commands. The operations staff will have the capability to maintain additions and deletions of the SSAPs. This will be done by maintaining an update record in each SSAP. The AITTL will also provide the operations staff, via a GUI, the capability to display and edit the metadata for a specific SSAP.

Test Configuration:

- Hardware: Data Server HWCI, AITTL HWCI.
- Software: SDSRV CI, AITTL CSCI.
- Data: Science Software Archive Packages.
- Tools: None.

Test Input:

Display the SSAPs in the data server. Add several new SSAPs to the data server and delete several others. Attempt to delete an SSAP that does not exist. Some additions will be done using an input file which contains the instructions for the addition, others will be done manually. Attempt to add invalid SSAPs. Display the SSAPs. Display the metadata for a specific SSAP. Edit the metadata of a specific SSAP. Display the edited metadata. Display the update record within that SSAP.

Test Output:

A listing of all the SSAPs in the data server is displayed. A message indicating the success or failure of the add or delete requests. Another display of the SSAPs. The metadata will be displayed. A message indicating the success or failure of the edit metadata operation. A display of the metadata for the specified SSAP or an error message if unable to grant request. The update log for that SSAP will be displayed.

Success Criteria:

An accurate listing of all the SSAPs in the data server is displayed. The data server will be updated to include the new SSAPs, and will not include the deleted SSAPs. Another listing of the SSAPs accurately reflects the changes made. The metadata for the specified SSAP is successfully displayed. The data server is updated to include the modified metadata for the specified SSAP. A display of the metadata accurately reflects the changes to the metadata. The update log for that SSAP is displayed and accurately reflects all updates made to the SSAP.

L3 Requirements:

EOSD2400#B, PGS-0630#B, PGS-0960#B

L4 Requirements:

S-DPS-41100, S-DPS-41110, S-DPS-41140, S-DPS-41160, S-DPS-41170, S-DPS-41190, S-DPS-41200

4.2.8.4 Test Case 4: Science Software Archive Package Files (B240.02.04)

This test verifies that the operations staff can restrict update access to the data server. This test also verifies that the Algorithm Integration and Test Tool (AITTL) provides the operations staff, via a GUI, the capability to display a list of files for a specific Science Software Archive Package (SSAP). The operations staff, via a GUI, can add, remove, or retrieve a copy of a file from the set of files comprising a SSAP. A record will be made of all the updates made.

Test Configuration:

- Hardware: Data Server HWCI, AITTL HWCI.
- Software: SDSRV CSCI, AITTL CSCI.
- Data: Science Software Archive Packages.
- Tools: None.

Test Input:

The following requests will be performed by both authorized users and unauthorized users:

Request the display of the files comprising a specific SSAP. Request the addition and removal of files to/from the set of files comprising an SSAP. Retrieve of a copy of specific files from a specific SSAP. Attempt to retrieve a file which does not exist. View the update log for a particular SSAP.

Test Output:

A listing of all the files comprising the SSAP is displayed. A message indicating the success or failure of the add/remove request is displayed. A copy of the requested file or an error message if the file could not be retrieved or does not exist is displayed. A display of the update log for that SSAP.

Unauthorized users will receive a message indicating that they do not have access permission to the data server.

Success Criteria:

A message indicating the unauthorized user does not have the proper permissions to access the data server is received when the unauthorized user attempts to access the data server. The data server is not modified nor accessed by an unauthorized user.

For authorized users: an accurate listing of all the files comprising the specified SSAP is received when requested. In the case of an add request, the data server is updated to include the

new file for the specified SSAP. In the event of a remove request, the data server is updated with the specified file removed from the SSAP. In the event of a retrieve request, a copy of the requested file is retrieved or a message indicating that the file does not exist if the filename is inaccurate. A display of the update log will accurately reflect all the updates made to that SSAP.

L3 Requirements:

EOSD2400, PGS-0630#B, PGS-0960#B

L4 Requirements:

S-DPS-41120, S-DPS-41130, S-DPS-41150, S-DPS-41200

4.2.8.5 Test Case 5: Timing of Data Staging (B240.02.05)

This test verifies that processing will begin staging input at a time based on the predicted PGE start time and the estimated data staging time. This test also verifies that input data staging will be canceled if the DPR that initiated it is canceled. The staged data will be deleted if no other DPR needs it. If another DPR does need the staged data, it will not be deleted. This test also verifies that input data staging will be completed when a PGE job is suspended while data is being staging.

Test Configuration:

- Hardware: Science Processing HWCI, Planning HWCI, Data Server HWCI
- Software: PRONG CI, PLANG CI, SDSRV CI.
- Data: Active site production plan, DPRs, input data for the DPRs.
- Tools: None.

Test Input:

Active plan in progress with numerous DPR's. PGEs requiring input data staging. Input data is available to be staged. Some DPRs are canceled and some PGEs are suspended, some during data staging, some after data staging.

Test Output:

Input data staging is initiated. Some DPRs are canceled and some PGEs are suspended. Input data staging is canceled for canceled DPR's. Data staged for a canceled DPRs is deleted if no other DPR needs it. Input data staging is completed for suspended PGE's. Response messages are displayed.

Success Criteria:

Input data staging begins at a time based on the predicted start of PGE execution and the estimated data staging time. Data staging is canceled when a DPR is canceled. Data staged by a canceled DPR is deleted when no other DPR needs the staged data. Staged data will not be deleted if it is needed by another DPR. Data staging for a suspended PGE will be completed, and the PGE will be suspended.

L3 Requirements:

PGS-0240#B

L4 Requirements:

S-DPS-20691, S-DPS-20694, S-DPS-20695, S-DPS-20696

4.2.8.6 Test Case 6: Data Availability Schedules (B240.02.06)

This test verifies that queries can be submitted to the Data Server to retrieve specific plans and their corresponding metadata. DAS Notices indicating the arrival of plans and schedules, including FOS plans and schedules, are received and displayed to the operator. A response message is sent to the data server upon receiving the plans and schedules. A Data availability schedule (DAS) will be created for EDOS based on the FOS plans and schedules. The DAS and the corresponding metadata will be sent to the data server. The DAS reflects the data products expected to be generated in the active plan. Site production plans and site resource plans will also be provided to the data server.

Test Configuration:

- Hardware: PLANG HWCI, Data Server HWCI
- Software: PLANG CI, SDSRV CI
- Data: DAS Notices, FOS Plans and Schedules, Data Subscriptions, site resource plans, site production plans.
- Tools: None.

Test Input:

Data subscriptions for FOS plans and schedules are sent to the data server. Queries are submitted to the Data Server to retrieve specific plans and their corresponding metadata from the data server. Initiate the creation of a DAS based on the FOS plans and schedules. Send the DAS and its metadata to the Data Server. Send site production plans and site resource plans to the data server.

Test Output:

A DAS notice is received and displayed. Plans which match the search criteria, and the corresponding metadata, are received. Plans and schedules are received. A response message is sent to the data server. A DAS is created for EDOS based on FOS plans and schedules. Site production plans and site resource plans are sent to the data server.

Success Criteria:

Data subscriptions are successfully sent to the Data Server. Plans which match the search criteria, and the corresponding metadata, are received. A DAS notice is received and displayed when FOS plans and schedules are available. FOS plans and schedules are retrieved. The appropriate response message is sent to the data server. The DAS for EDOS is successfully created and accurately reflects the data products and predicted data availability times based on

FOS plans and schedules received from the Data Server. The DAS and plans are successfully sent to the Data Server.

L3 Requirements:

DADS2020#B, EDOS-4.1.2.2#B, PGS-0150#B, PGS-0180#B, PGS-0290#B, SMC-1305#B, SMC-1315#B

L4 Requirements:

S-PLS-00360, S-PLS-00631, S-PLS-00635, S-PLS-00651, S-PLS-00652, S-PLS-00654, S-PLS-00656, S-PLS-00665, S-PLS-00845, S-PLS-00850, S-PLS-00860

4.2.8.7 Test Case 7: On-Demand Processing Scenario (B240.02.07)

This test verifies a processing scenario involving the Data Server, Processing, and Planning. Several on-demand processes will be initiated by the client or a client simulator. Updates to on-demand processes will be submitted by the same means. Some of the on-demand processing requests will not have the data necessary to complete the request and will be rejected by Data Server. A notification will be sent to the operator if Data Server rejects the request. A notification will also be sent if Planning or Processing does not complete the request for any reason. The Data Server will forward the remaining on-demand processing requests to Planning. Some of the on-demand processing requests will be invalid and will be rejected by Planning. Planning will notify Data Server indicating the acceptance status of the on-demand processing requests. Planning will check the on-demand processing request against operator-specified thresholds and forward the compliant on-demand processes to Processing. The remaining requests will be deferred for future scheduling. A notification will be sent to the operations staff indicating the process has been deferred. Processing will process the requests. When processing is completed for each request, the Data Server will be notified that the data product is ready to be archived. Planning will notify Data Server of the acceptance status of updates to the on-demand processes. The updates received will be implemented. The Data Server will retrieve the data product from Processing.

Test Configuration:

- Hardware: Planning HWCI, Processing HWCI, Data Server HWCI
- Software: PLANG CI, PRONG CI, SDSRV CI
- Data: On-demand production requests, updates to the on-demand processing requests, input data for the production requests, active site production plan, defined on-demand thresholds.
- Tools: Driver to simulate Client processing requests.

Test Input:

Initiate several valid and invalid on-demand processing requests. Initiate valid and invalid updates to the on-demand processes.

Test Output:

Notifications are received by the Operations Staff indicating deferred production requests and invalid production requests. Notifications are sent from Processing to Data Server indicating a data product is ready to be archived. Processed data products are archived.

Success Criteria:

Data Server will check to make sure the data exists to complete the on-demand processing requests and will forward only those requests to Planning. Data Server can distinguish between valid and invalid updates and will submit valid updates to on-demand processes to Planning. Planning will compare the on-demand processing requests to operator-set thresholds and forward the appropriate on-demand processing requests to Processing and defer the processing requests which exceed thresholds. Processing will process the requests successfully. The final data product will be retrieved by Data Server. The appropriate notifications will be received.

L3 Requirements:

DADS0910#B, IMS-1010#B, PGS-0240#B, PGS-0160#B, PGS-0165#B, PGS-0250#B, PGS-0285#B, PGS-0380#B SDPS0026#B, SCF-0270#B

L4 Requirements:

S-DPS-20691, S-DSS-01080, S-DSS-01200, S-PLS-00100, S-PLS-00130, S-PLS-00140, S-PLS-00150, S-PLS-00160, S-PLS-00170, S-PLS-00190, S-PLS-01210.

4.2.8.8 Test Case 8: Re-planning (B240.02.08)

This test verifies that replan events can be listed, and that these events, when they occur, will result in replan notification being sent to the operator. The Data Server will provide a new Data Availability Schedule (DAS) available to Planning. The Data Server will submit an On-Demand production request with resource requirements that exceed predefined thresholds.

The replan events to be tested are as follows: The arrival of a new DAS indicating that data will be delayed by more than the user-configured delay parameter; and the submission of an On-Demand Production Request with resource requirements that exceed predefined thresholds.

Test Configuration:

- Hardware: PLANG HWCI, PRONG HWCI, Data Server HWCI
- Software: PLANG CI, PRONG CI, SDSRV CI.
- Data: Site production plan, DAS, on-demand production requests.
- Tools: None.

Test Input:

Current active Production Plan. Set the user-configurable delay parameter which specifies the maximum amount of time data can be delayed without issuing a replan notification. Initiate the arrival of a DAS from the Data Server which indicates data will be arriving on time, later than previously scheduled but prior to the user-configured delay, and later than the user-configured delay parameter.

Submission of various On-Demand Production Requests from the Data Server - some with resource requirements that exceed predefined thresholds.

Test Output:

Notifications indicating the user-configurable parameters have been set. DASs and on-demand production requests are received. Replan notifications are received.

Success Criteria:

Replan notifications are received for the following conditions : The arrival of a new Data Availability Schedule (DAS) indicating that data will be delayed by more than the user-configured delay parameter; and the submission of an On-Demand Production Request with resource requirements which exceed predefined thresholds.

Replan notifications are not received for any other conditions.

L3 Requirements:

PGS-0140#B, PGS-0295#B

L4 Requirements:

S-PLS-01230, S-PLS-02420, S-PLS-02430

4.2.8.9 Test Case 9: Data Preprocessing (B240.02.09)

This test verifies that Planning can kick off data preprocessing of EDOS L0 data. Data Preprocessing (DPREP) is a regularly scheduled process that will run at a set time each day. The EDOS L0 data will be ingested into the Data Server prior to the start time of the process. If the data is late, the DPREP process will run when the data becomes available.

The quality of the onboard orbit data is assessed. Data will be checked for missing or erroneous data. The metadata will be updated to note missing data or erroneous data which deviates more than a specified number or exceed limits over a specified time interval. In addition, processing will generate reports on the quality of onboard orbit data noting if the number of missing data is more than a specified limit value over a specified time interval, and if the number of contiguous missing data is more than a specified value. This test also verifies that the quality of the onboard attitude data contained in the EOS-AM spacecraft ancillary data is assessed properly. Missing and erroneous data will be detected and noted in the metadata.

This test also verifies that the SDP Toolkit will be provided with the following information:

- 1) EDOS-generated L0 PDS containing header and quality information, as specified in the EDOS-ECS ICD.
- 2) EDOS-generated L0 PDS as header and quality parameters contained within the same physical file as the L0 telemetry packets.
- 3) EDOS-generated L0 header in the native format of the host hardware.

4) EDOS-generated L0 data including actual start time and actual end time of staged L0 data, the number of physical L0 data files staged, start time and end time of L0 data as requested by EOS investigators, APID of each L0 data file, and the orbit number of the staged L0 data file.

5) Ephemeris files (platform position and velocity vectors, and platform attitude/attitude rate data).

6) Metadata (time range, orbit number range, and platform).

The orbit and attitude data transferred to the SDP Toolkit is transferred in the native format of the host hardware. The native format of all host hardware is HDF-EOS format.

Test Configuration:

- Hardware: Data Server HWCI, PLANG HWCI, PRONG HWCI.
- Software: PRONG CI, PLANG CI, SDSRV CI, SDPTK
- Data: Ingested and archived EOS AM Spacecraft ancillary data of varying quality (some of the data will have holes and erroneous data).
- Tools: None.

Test Input:

EOS AM Spacecraft ancillary data is provided to processing from the Data Server.

Test Output:

Metadata will be updated to note missing or erroneous data. A report will be generated which specifies the quality of the onboard orbit data. A file which contains the information for the SDPTK as specified above.

Success Criteria:

The Data Server will make the EDOS L0 data available to Processing. Planning will kick off the DPREP process at the specified time. The entry into the metadata of any missing and/or erroneous data is successful. A report which correctly notes the quality of the onboard orbit data is created. The storing of the data in a file for the SDPTK as specified in the test case description is successful.

L3 Requirements:

DADS0140#B, DADS0770#B, DADS0780#B, DADS0800#B, EDOS-4.2.2-#B, EDOS-4.2.3-#B, EDOS-4.4.2.1-a#B, EDOS-4.4.2.1-b#B, EDOS-4.4.2.4#B, EDOS-4.4.3.1-a#b, EDOS-4.4.3.1-b#B, EDOS-4.4.3.4#B, EDOS-4.4.3.5-#B, EDOS-B.4.2#B, EDOS-C.4.2#B, EDOS-C.4.3#B, PGS-0455#B, PGS-0456#B, PGS-0458#B, PGS-0500#B, PGS-0520#B, PGS-1015#B, PGS-1100#B, SDPS0020#B

L4 Requirements:

S-DPS-30300, S-DPS-30320, S-DPS-30600, S-DPS-30710, S-DPS-30750, S-DPS-30770, S-DPS-30900, S-DPS-30910, S-DPS-30920, S-DPS-31010, S-DPS-31030.

4.2.8.10 Test Case 10: Processing Advertisements (B240.02.10)

This test verifies that Processing can send advertisement subscriptions and receive advertisements from the advertising service.

Test Configuration:

- Hardware: PRONG HWCI, Advertising Service hardware
- Software: PRONG CI, Advertising Service CI
- Data: Advertising data
- Tools:

Test Input:

Initiate an advertisement subscription to be sent from processing to the advertising service. Initiate an advertisement to be sent from the advertising service to processing.

Test Output:

Messages indicating that the advertisements were sent or received.

Success Criteria:

Advertisement subscriptions will be sent and advertisements will be received without errors.

L3 Requirements:

IMS-0550#B.

L4 Requirements:

S-DPS-21124, S-DPS-21126.

4.2.8.11 Test Case 11: Planning Advertisements (B240.02.11)

This test verifies that Planning can send advertisement subscriptions and receive advertisements from the advertising service.

Test Configuration:

- Hardware: Planning HWCI, Advertising Service hardware
- Software: PLANG CI, Advertising Service
- Data: Advertising data
- Tools:

Test Input:

Initiate an advertisement subscription to be sent from planning to the advertising service. Initiate an advertisement to be sent from the advertising service to planning.

Test Output:

Messages indicating that the advertisements were sent or received.

Success Criteria:

Advertisement subscriptions will be sent and advertisements will be received without errors.

L3 Requirements:

IMS-0550#B.

L4 Requirements:

S-PLS-00604, S-PLS-00606.

4.2.8.12 Test Case 12: Concurrent Execution of Operational and Test Modes for PDPS (B240.02.12)

This test verifies the capability of PDPS to execute in both operational and test mode simultaneously and maintain data integrity. Each application must register within their mode-associated namespace prior to execution. A mode identifier must be incorporated for CSS name service lookups for the application to run in test mode. PDPS will be running in operational mode. A test mode will be brought up utilizing the same machines for the same functions, and then with different machines. This test mode will be run utilizing Algorithm and Test activities.

Test Configuration:

- Hardware - DCE cell, Workstation, X terminal, PLANG HWCI, PRONG HWCI, Data Server HWCI.
- Software - PLANG CI, PRONG CI, SDSRV CI, MSS CI
- Data: PGE's, Input data for PGE's, site production plan, site resource plan.
- Tools: Xrunner, HP OpenView.

Test Input:

PDPS is running in operational mode with an active site production plan and an active site resource plan. The active plans will include several read/write situations. Initiate a PDPS test mode environment utilizing the same machines as the operational mode environment. The test environment will include several read/write situations. Utilize a user login id for some of the test mode testing. Attempt to change the modes of the test and operational environment.

Repeat the test bringing up the test mode on a different machine than the operational mode is utilizing. Utilize a simulated time value for this test mode.

Test Output:

Test mode environments are brought up. Messages are received when the operator attempts to change the mode of the test and operational environment. HP OpenView shows both operational and test modes of application are running. Output is received from the PGEs that are running in operational and test modes. Cost and accounting data are logged.

Successful Criteria:

HP OpenView shows the successful initialization and concurrent execution of the test and production modes. Data integrity is maintained. The simulated time entered for test mode will be accepted and accurately utilized as the system time for that test mode environment. The mode (operational or test) will not be changeable during execution. The activity log will contain entries for cost and accounting data. Valid production cost and accounting logs will not be altered by the test modes. The test mode processes will interact exclusively with the appropriate test mode database(s). The operational mode processes will interact exclusively with the operational mode databases.

L3 Requirements:

EOSD0510#B, EOSD0630#B, EOSD0710#B, PGS-0870#B, PGS-1050#B, SDPS0140#B.

L4 Requirements:

S-DPS-24000, S-DPS-24010, S-DPS-24040, S-DPS-24050, S-DPS-24060, S-DPS-24070, S-DPS-24080, S-DPS-24090, S-PLS-00741

4.2.8.13 Test Case 13: Compare Actual vs. Planned Resource Usage (B240.02.13)

This test verifies that Planning provides the capability to generate reports which show the comparison of planned resource usage to actual resource usage for a specific, planned ground event. This would be invoked after the planned ground event had executed. The operator will initiate the creation of the report. This will initiate the retrieving of the actual resource usage from MSS. This will then be compared to the resource usage specified in the resource plan. A report will be generated showing the allocated time in the resource plan compared to the actual time the ground event consumed.

Test Configuration:

- Hardware: Planning HWCI, Processing HWCI, Data Server HWCI, MSS HWCI
- Software: PLANG CI, PRONG CI, Data Server CI, MSS CI
- Data: Site Production Plan, PGE inputs, PGEs
- Tools: Report generator.

Test Input:

Initiate the current Site Production Plan and Site Resource Plan. Wait for the ground event to execute. Operator issues a command to compare planned resource usage to actual resource usage for a planned ground event.

Test Output:

PGEs will begin running. A chart showing the planned site resource usage vs. the actual site resource usage will be generated.

Success Criteria:

The resulting chart will accurately reflect the information in the site resource plan and the actual resource usage, and will compare the two.

L3 Requirements:

SMC-0320#B

L4 Requirements:

S-PLS-00355

4.2.9 Performance Monitoring Test (B253.02)

The I&T performance requirements testing will verify that the Release B system will operate within the performance measurements. Testing is performed to demonstrate the ability to determine the operational state of all network components, hosts, and peripherals. A performance testing request will generate a report with the operational availability calculations of the requested scenario. Invalid tests are submitted to verify the error detection, handling, and reporting of the functionality. The Performance End to End Testing includes the initial phase to the final phase of data processing. The Performance End to End applies to Performance Trending processing and the Ingest Performance; these phases include the Push Load scenarios and Pull Load scenarios

4.2.9.1 Test case 1: Performances Trending Parameters Analysis (B253.02.01)

This test verifies the capability of the MSS Performance Trending Service to select parameters for trend analysis.

Test Configuration:

- Hardware: workstation, X-terminal
- Software:
- Data: Simulator
- Tools: HP OpenView, X-runner, Tivoli

Test Input:

Performance testing data and system scenario scripts. Submission of performance testing request.

Test Output:

Report of performance testing for the ECS component.

Success Criteria:

This test is considered successful if a report is generated which includes the required resources, purpose, requested priority, required environment, operations impacts, and expected results of the performance testing request. Performance testing events are recorded in the MSS log file.

L3 Requirements:

SMC-3410#B, SMC-3420#B

L4 Requirements:

C-MSS-69110

4.2.9.2 Test case 2: Performance Trending Textual and Graphical Formats (B253.02.02)

This test verifies the capability of the MSS Performance Trending Service to output trend data in textual and graphical formats.

Test Configuration:

- Hardware: Workstation, X-terminal
- Software:
- Data: Management Database
- Tools: HP OpenView, Tivoli

Test Input:

Management database with trend data.

Test Output:

Trend data is displayed in textual and graphical formats.

Success Criteria:

This test is considered successful if the MSS Performance Trend Service can output trend data in textual and graphical formats.

L3 Requirements:

SMC-3410#B, SMC-3420#B

L4 Requirements:

C-MSS-69120

4.2.9.3 Test case 3: Receiving Performances Data (B253.02.03)

This test verifies the capability of the performance management application service to receive performance data from Site performances management applications, EBnet, ASTER, NOAA(SAA), Landsat(MMO), NSI, and NOLAN.

Test Input:

Diagnostic test requests and diagnostic test results.

Test Configuration:

- Hardware: workstation, X-terminal
- Software: Diagnostic test simulator

- Data: Simulator
- Tools: HP OpenView, X-runner, Tivoli, Load Runner, performance monitoring tools, and data analysis tools

Test Output:

Alarm detecting the performances data, management framework visually updates the performance location, and event log updated with performance notification.

Success Criteria:

This test is considered successful if the MSS Performance Management Application Service detecting the performance and performance degradation events from ISS.

L3 Requirements:

SMC-3410#B, SMC-3420#B, SMC3380#B, ESN-1000#B

L4 Requirements:

C-MSS-66181

4.2.9.4 Test case 4: EDC Landsat 7 LPs Nominal Rate Test (B253.02.04)

This test verifies that the LaRC DAAC has the capability of ingesting data from the EDC at the nominal rate.

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data:
- Tools:

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Test Output:

Rate performance data is collected.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

L3 Requirements:

EOSD1085#B

L4 Requirements:

S-INS-61030

4.2.9.5 Test Case 5: LaRC NESDIS Nominal Rattiest (B253.02.05)

This test verifies that the LaRC DAAC has the capability of ingesting data from the NESDIS at the nominal rate (as specified in Appendix E, Tables E-3a and E-3b, of the current version of 304-CD-005).

Test Configuration:

- Hardware: workstation
- Software: INGST
- Data:
- Tools:

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Test Output:

Rate performance data is collected.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

L3 Requirements:

DADS0145#B

L4 Requirements:

S-INS-01035

4.2.9.6 Test Case 6: JPL RADAR-ALT Nominal Rate and Sizing Test (B253.02.06)

This test verifies that the JPL DAAC has the capability of ingesting data from the RADAR-ALT at the nominal rate. This test also verifies that the JPL DAAC is sized to store and maintain RADAR-ALT data for one year and temporarily.

Test Configuration:

- Hardware: workstation
- Software: INGST

- Data:
- Tools:

Test Input:

A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing. UNIX commands are submitted to provide the available size of the storage area for RADAR-ALT data.

Test Output:

Rate performance data is collected. UNIX commands generate the status of the available sizing.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate based upon Appendix E of the current version of 304-CD-005. The output from the UNIX commands are used to validate sizing constraints as specified in Appendix E (Sections E.1 - E.3 and Tables E-1 - E-3) of the current version of 304-CD-005

L3 Requirements:

DADS0200#B, DADS0487#B, DADS2778#B

L4 Requirements:

S-INS-60748, S-INS-60711, S-INS-61110

4.2.9.7 Test Case 7: Data Server System CPU and Throughput Performance Test (B253.02.07)

This test verifies the capability to utilize vendor tools to analyze system CPU and Throughput performance of the science data server. This test also verifies that these tools can be used to tune throughput performance.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data: Several Data Server requests
- Tools: LoadRunner, Client Interface (real or simulated), vendor supplied tool

Test Input:

CPU and Throughput intensive operations are initialized. As the system is running, the vendor tools are used to monitor and capture CPU and Throughput performance information. The vendor tools are also used to evaluate how configurations can be altered to improve throughput.

After throughput reports are analyzed, implement suggested throughput changes.

Test Output:

Vendor reports are generated and printed.

Monitor throughput reports for any changes.

Success Criteria:

Vendor tool reports that reflect system performance are generated. Vendor tool reports that reflect system throughput processing performance are generated. Changing the system configuration based upon tool suggestions must improve throughput performance.

L3 Requirements:

DADS1340#B, IMS-0240#B, IMS-1440#B, IMS-1650#B, IMS-1660#B

L4 Requirements:

S-DSS-00770, S-DSS-00800, S-DSS-00810, S-DSS-01170

**4.2.9.8 Test Case 8: Data Server Query Processing Performance Test
(B253.02.08)**

This test verifies the capability to utilize vendor tools to analyze query processing performance.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data:
- Tools:

Test Input:

A series of queries are submitted. As the system is running, the vendor tools are used to monitor and capture query performance information.

Test Output:

Vendor reports are generated and printed.

Success Criteria:

Vendor tool reports that reflect system query processing performance are generated.

L3 Requirements:

IMS-0240#B, IMS-1440#B

L4 Requirements:

S-DSS-00780

4.2.9.9 Test Case 9: Data Server System Storage Performance Test (B253.02.09)

This test verifies the capability to utilize vendor tools to analyze system storage performance.

Test Configuration:

- Hardware: workstation
- Software: SDSRV
- Data:
- Tools:

Test Input:

System storage intensive operations are initialized. As the system is running, the vendor tools are used to monitor and capture storage performance information.

Test Output:

Vendor reports are generated and printed.

Success Criteria:

Vendor tool reports that reflect system storage performance are generated.

L3 Requirements:

DADS1340#B, IMS-0240#B, IMS-1440#B

L4 Requirements:

S-DSS-00790

4.2.10 System Services Test 5 (B250.02)

The System Services Test 5 is an integrated build of the following builds:

- Real-Time Management Build
- Management Service Build
- Performance Monitoring Build

The objectives of the System Service Test 5 are:

- Provide the capability to manage system performance, system failures and accounting/accountability.
- Provide the capability to generate reports to support audits and to perform various analyses.
- Provide the capability to perform client and data server management services.
- Provide the capability to perform data access and search services.

- Provide the capability to perform ingest services.

Testing is performed to verify system performance monitoring and data collection during simultaneous processing of individual requests and normal operation of the system. Testers will develop requests with the help of client services. These requests will be distributed appropriately. Products will be ingested and distributed according to the requests. Once products are ingested, the tester can access data through the client interface.

Analysis of system performance monitoring and data collection will support load balancing, tuning/optimization and trends analysis/capacity planning activities. System failures are automatically detected through analysis of system event logs and faults are resolved based on vendor diagnostics, procedures, reports and timing in accordance with fault policies.

Testing is performed to verify accounting and accountability management. Accounting policies are distributed and available system-wide. Accounts receivable, credit tracking, price estimation, invoicing, billing and reporting will be managed by the system. The test configuration is as follows

- Hardware : Workstations with Release B configuration
- Software : Release B software, MSS System Management Framework tool, Mode Management Application, MSS Performance Management Application Service, Report Generation, MSS Billing & Accounting Service, MSS Security Management Service, MSS Configuration Management, Data Server, Data Distribution, INGST,
- Data : User Profile, Application's Startup File, DataBase, Production Plan, Trend Management Data, Guide Document, Search Directory, Document Data Server Requests,
- Tools XRunner, LoadRunner, HP OpenView, Tivoli

4.2.10.1 Testcase 1: Performance Statistics of Concurrent Execution with Operational Mode and Test Mode Over EBnet (B250.02.01)

This test verifies that the system has the capability of concurrent execution of operational mode and test mode and the MSS System Management Framework tool has the capability to detect the condition. Further more, the MSS System Management Framework tool has the capability to request and receive performance data which is collected and provided by SDPS. Once data is collected, then related reports can be generated.

Test Input:

Initialize the operational mode environment and test mode environment in the mode management script for different subsystem software. Performance data (system availability, service availability, resource utilization or throughput, etc.) is collected .

Test Output:

The subsystem software will start with assigned mode, the software will be registered with the System Management Framework tool and a symbol will be displayed with an appropriated label. The performance data is collected and sent to MSS and logged in a file. An appropriate notification is sent to the M&O staff and the related report is printed..

Success Criteria:

The System Management Framework shows the successful execution of the operational and test environment. The performance data is collected, notification is sent out and a report is generated and printed.

L3 Requirements:

DADS0901#B, IMS-1620#B

L4 Requirements:

S-DSS-00825, S-DSS-00837, S-DSS-00845, S-DSS-00854, C-MSS-66001, C-MSS-66121, C-MSS-66123, C-MSS-66141, C-MSS-66151, C-MSS-66161, C-MSS-66171

4.2.10.2 Testcase 2: Fault Management & Notification of Concurrent Execution with Operational Mode and Training Mode Over ASTER (B250.02.02)

This test verifies the system has the capability of concurrent execution of operational mode and training mode and the MSS System Management Framework tool has the capability to detect the condition. Furthermore, the MSS System Management Framework tool has the capability to detect the fault and isolate information under either mode.

Test Input:

Initialize the operational mode environment and training mode environment in the mode management script for different subsystem software. Subsystem software is launched and shutdown.

Test Output:

The subsystem software will start with assigned mode, the software will be registered with the System Management Framework tool and an object symbol will be displayed with an appropriate label. The cause a software fault which will be detected by the MSS System Management Framework tool and an appropriated notification is sent to the MSS and logged in a file.

Success Criteria:

The System Management Framework shows the successful execution of the operational and training environment. The software fault is detected and notification is received by MSS.

L3 Requirements:

DADS0901#B, DADS0925#B, DADS1320#B, DADS1330#B, IMS-1760#B, EOSDI710#B, ESN-0800#B

L4 Requirements:

S-DSS-00830, S-DSS-10233, C-MSS-60161, C-MSS-60171, C-MSS-60181

4.2.10.3 Testcase 3: Accountability Management (B250.02.03)

This test verifies the Science Data Server or Data Distribution or Storage Management or Document Data Server has the capability to collect the utilization of ECS services by individual users to MSS and an audit report can be generated.

Test Input:

Request is issued by individual user to collect the utilization of ECS services. Information feed into Report Generation Application and generates an audit report.

Test Output:

The Audit Report is generated with the requested information.

Success Criteria:

Audit Report is generated and printed.

L3 Requirements:

DADS0901#B, IMS-1620#B

L4 Requirements:

S-DSS-00824, S-DSS-00836, S-DSS-00844, S-DSS-00853, C-MSS-75001, C-MSS-75015, C-MSS-75100, C-MSS-75110

4.2.10.4 Testcase 4: Accounting Management (B250.02.04)

This test verifies the Science Data Server or Data Distribution or Storage Management has the capability to collect the account pricing information and forward the information to the MSS for accounting and billing process. The information includes Request Identifier, date and time of request, media cost, CPU utilization, I/O utilization, personnel costs, shipping and handling costs, networking costs, and archival costs, as applicable.

Test Input:

Request is issued to collect the user account information. An appropriate report is generated.

Test Output:

The user account summary report is generated with the requested information.

Success Criteria:

Report is generated and printed.

L3 Requirements:

DADS0901#B, IMS-1620#B, PGS-0310#B, SDPS0010#B

L4 Requirements:

S-DSS-00823, S-DSS-00835, S-DSS-00843, S-DSS-00852, S-DPS-20150, S-PLS-01460, C-MSS-78010, C-MSS-78030, C-MSS-78100, C-MSS-78110, C-MSS-78120, C-MSS-78130, C-MSS-78140, C-MSS-78150, C-MSS-78160, C-MSS-78180, C-MSS-78190

4.2.10.5 Testcase 5: Security Management (B250.02.05)

This test verifies the Science Data Server, Data Distribution, Storage Management has the capability to collect the security management data information and forward the information to the MSS for reporting, tracking and alert purposes.

Test Input:

Authorized and unauthorized users try to logon to the Science Data Server, Data Distribution, and Storage Management and perform certain requests. The logon and request information is sent to MSS.

Test Output:

The MSS receives the information and logs it in a file. A report is generated .

Success Criteria:

Report is generated and printed.

L3 Requirements:

DADS0901#B, IMS-1620#B

L4 Requirements:

S-DSS-00826, S-DSS-00838, S-DSS-00846, S-DSS-00855, C-CSS-21220

4.2.10.6 Testcase 6: Configuration Management (B250.02.06)

This test verifies the Science Data Server, Storage Management, and Data Distribution has the capability to send configuration management data to MSS. The information includes specific versions of individual software, data and hardware items to each other and information which describes changes to such configurations.

Test Input:

Request issued to collect the configuration management information. An appropriate report is generated.

Test Output:

The configuration management report is generated with the correct information.

Success Criteria:

Report is generated and printed.

L3 Requirements:

DADS0901#B, IMS-1620#B

L4 Requirements:

S-DSS-00822, S-DSS-00829, S-DSS-00842, S-DSS-00851

4.2.10.7 Testcase 7: Data Exchange between SMC and Data Server Test (B250.02.07)

This test verifies the capability for SMC and Data Server to send and receive data. M&O personnel will be utilizing and verifying operational commands to achieve the following functionality: logistics status to SMC, training information to SMC, integration, testing and simulation status to SMC, security directives from SMC, maintenance directives from SMC, scheduling and adjudication directives from SMC, integration, testing and simulation directives from SMC, configuration management directives from SMC, training information from SMC, fault management directives from SMC and logistic management directives from SMC.

Test Input:

A series of operational commands are submitted for the transfer of directives and status information between SMC and the Data Server.

Test Output:

The data transfer is monitored and logged.

Success Criteria:

All data are transferred successfully and logged appropriately.

L3 Requirements:

DADS0100#B, DADS1980#B, DADS2000#B, DADS2010#B, EDOS-2400#B, IMS-1270#B, IMS-1630#B, IMS-1640#B, SDPS0015#B

L4 Requirements:

S-DSS-00920, S-DSS-00930, S-DSS-00980, S-DSS-00990, S-DSS-01000, S-DSS-01010, S-DSS-01020, S-DSS-01030, S-DSS-01035, S-DSS-01040, S-DSS-01050

4.2.10.8 Testcase 8: Performance Trending Save and Retrieve Data (B250.02.8)

This test verifies the capability of MSS Performance Trending Server to save and retrieve data from the management database for long and short term trending.

Test Input:

MSS Performance Trending service and management database.

Test Output:

Performance Trending data is saved and retrieved from management database.

Success Criteria:

This test is consider successful if Performance trending data is saved and retrieved from the management database for long and short term trending.

L3 Requirements:

ESN-1000#B, SMC-3380#B, SMC-3410#B, SMC-3420#B

L4 Requirements:

C-MSS-69100, C-MSS-69120, C-MSS-69150

4.2.10.9 Testcase 9: Performance Trend Analysis(B250.02.9)

This test verifies the capability of the MSS Performance Trending Server to generate trend analysis.

Test Input:

1. Time series analysis
2. Analysis of variance including multiple analysis of variance
3. Correlation analysis
4. Regression analysis including non-linear multiple regression

Test Output:

MSS Performance Trend reports with analysis correlation, regression analysis including non-linear multiple regression, analysis of variance including multiple analysis of variance, and time series analysis.

Success Criteria:

This test is considered successful if the MSS Performance Trending Service can generate all of the trend analysis.

L3 Requirements:

SMC-3410#B, SMC-3420#B

L4 Requirements:

C-MSS-69105 , C-MSS-66181, C-MSS-66182, C-MSS-69110

4.2.10.10 Testcase 10: GSFC, LaRC, EDC Nominal Rate Ingest Test (B250.02.10)

This test verifies that the following DAAC's will be capable of ingesting data at the nominal daily rate (as stated in Appendix E of the current version of 304-CD-005):

- GSFC DAAC has the capability of ingesting data from the EDOS, DAO and NMC
- LaRC DAAC has the capability of ingesting data from the EDOS and DAO

- EDC DAAC has the capability of ingesting data from Landsat 7 IAS and Landsat 7 IGS

Test Input:

A series of Ingest requests are submitted. Requests are for data of various sizes and types. The system is monitored during Ingest processing.

Test Output:

Rate performance data is collected.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

L3 Requirements:

DADS2780#B, DADS0145#B

L4 Requirements:

S-INS-61000, S-INS-01140, S-INS-61020, S-INS-61040, S-INS-61050, S-INS-61080

4.2.10.11 Testcase 11: GSFC and LaRC Maximum Rate Ingest Test (B250.02.11)

This test verifies that the following DAAC's will be capable of ingesting data at a maximum daily rate that is three times the nominal rate (as stated in Appendix E of the current version of 304-CD-005):

- GSFC DAAC has the capability of ingesting data from EDOS
- LaRC DAAC has the capability of ingesting data from EDOS

Test Input:

A series of Ingest requests are submitted continuously over timed intervals. The number of ingest requests is increased, until the system can no longer accept requests. Requests are for data of various sizes and types. The system is monitored during Ingest processing.

Test Output:

Rate performance data is collected.

Success Criteria:

Performance data is examined. The performance data is analyzed to determine if Ingest data can be ingested at a rate that is three times the nominal rate.

L3 Requirements:

DADS2778#B

L4 Requirements:

S-INS-61010, S-INS-61025

4.2.10.12 Testcase 12: Guide Search Performance Test (B250.02.12)

This test verifies the capability to complete a search for a guide document. The software will be able to do this by a single keyword; however, the search time is not to exceed 8 seconds.

Test Input:

Submit single keyword searches to guide and collect information on search time.

Test Output:

Submit searches successfully. Guide data is returned.

Success Criteria:

Search does not take any longer than 8 seconds for a single keyword search.

L3 Requirements:

IMS-1780#B

L4 Requirements:

S-DSS-10300

4.2.10.13 Testcase 13: Directory Single Keyword Search Performance Test (B250.02.13)

This test verifies the capability to complete a directory search. The software will be able to do this by a single keyword search, not to exceed 8 seconds.

Test Input:

Submit single keyword searches for directories and collect information on search time.

Test Output:

Search results are returned to the requester.

Success Criteria:

Single keyword search does not take any longer than 8 seconds for a directory search.

L3 Requirements:

IMS-1780#B

L4 Requirements:

S-DSS-10305

4.2.10.14 Testcase 14: Directory Multiple Keyword Search Performance Test (B250.02.14)

This test verifies the capability to complete a directory search. The software will be able to do this by using multiple keywords; however, the search time is not to exceed 13 seconds.

Test Input:

Submit multiple keyword searches for directories and collect information on search time.

Test Output:

Search results are returned to the requester.

Success Criteria:

Multiple keyword search will not take any longer than 13 seconds for directory search.

L3 Requirements:

IMS-1780#B

L4 Requirements:

S-DSS-10306

4.2.10.15 Testcase 15: Document Data Server System CPU and Throughput Performance Test (B250.02.15)

This test verifies the capability to utilize the vendor's supply tools to assist in analyzing the system's CPU performance. This test also verifies the capability to utilize the vendor's supply tools to assist in analyzing the system's throughput performance.

Test Input:

CPU and throughput intensive operations are initialized. As the system is running, the vendor tools are used to monitor and capture CPU and throughput performance information.

Test Output:

Statistics, displays, and vendor reports are generated and printed.

Success Criteria:

Vendor tool reports that reflect system performance are generated. CPU and throughput performance data is successfully collected for CPU and Throughput analysis.

L3 Requirements:

DADS1340#B, IMS-0240#B

L4 Requirements:

S-DSS-10231, S-DSS-10232

4.2.10.16 Testcase 16: Monitoring the Performances of ECS Components (B250.02.16)

This test verifies the capability of the performance management application service to determine the operational state of all ECS components. These components consist of network components,

hosts, operating system, data, peripherals and ECS applications. Reports are generated to verify statistical data collection and event logging of network and system activity.

Test Input:

Use the MSS performance management application service to monitor the performances of the following ECS components.

a. network components

1. router 2. links 3. bridges 4. gateways

b. hosts

c. operating systems

d. peripherals

e. data

f. ECS applications

Test Output:

ECS component is recorded in the MSS log file to be in a undefined operational state.

Success Criteria:

Performance statistics are reported for the ECS component in on-line state. All performance data id correctly recorded in the MSS log file.

L3 Requirements:

EOSD0500#B, ESN-0010#B, ESN-0210#B, ESN-0620#B, PGS-0430#B, SMC-3300#B, SMC-3305#B, SMC-3315#B, SMC-3385#B, SMC-3380#B, SMC-3320#B, SMC-3325#B, SMC-3330#B, SMC-3335#B

L4 Requirements:

C-MSS-66001

4.2.10.17 Testcase 17: Performances Operational State of all Network Components (B250.02.17)

This test verifies the capability of the performance management application service to determine the operational state of all network components, host, and, peripherals to be determined..

Test Input:

Test inputs include: Simulated network and system map in HP OpenView. ECS component's state is set to on-line, off-line, in test mode, in maintenance, and in simulation mode.

Test Output:

Performance monitoring reports statistics for the ECS component in on-line, off-line, test mode, maintenance, and simulation mode. All performance data recorded in the MSS log file is identified as test mode.

Success Criteria:

This test is considered successful if the MSS Performance Management Application Service determines the correct operational states.

L3 Requirements:

EOSD0780#B, ESN-0790#B, ESN-1060#B, SMC-3300#B, SMC-3397#B, SMC-3400#B, SMC-3305#B

L4 Requirements:

C-MSS-66121

4.2.10.18 Testcase 18: Requests Performances Testing (B250.02.18)

This test verifies the MSS Performance Management Application Service requests for performance testing. Performance testing requests consist of system scenario scripts for calculating operational availability of the involved ECS components. Reports are generated to verify the calculations of the performance testing requests. Event logging of performance testing requests is also verified.

Test Input:

Run system scenario scripts. Submit performance testing result request.

Test Output:

Report of performance testing for the ECS component.

Success Criteria:

This test is considered successful if a report is generated which includes the required resources, purpose, requested priority, required environment, operations impacts, and expected results of the performance testing request. Performance testing events are recorded in the MSS log file.

L3 Requirements:

SMC-3397#B, SMC-3400#B

L4 Requirements:

C-MSS-66123

4.2.11 Release B System Handoff Test 6 (B260.02)

The System Hand-off Build 6 will demonstrate that the entire ECS System developed by Release B has been integrated and that there has been no loss of functionality. This will be accomplished by stepping through a series of tests that will verify end-to-end system functionality. The flow of

this testing starts with system access which includes verifying system security and communications along with user session capabilities. The tests cover ingesting and archiving data followed by processing of data. These tests also include media ingesting, populating inventories, updating metadata, and data preprocessing. Finally, the system's fault management is verified. The next two tests will check the system's data access functions that include data searches and data requests. The final two steps will verify system management functions and the capabilities that the system can operate in concurrent modes (operational, testing, and training). Once this test is successfully completed the ECS System will then be ready for the acceptance testing process.

Test Configuration:

- Hardware: 4mm digital audio tape, 8 and 4mm tapes, 9 track magnetic tape, Advertising Server, AITTTL HWCI, CD-ROM, Client workstation, Data Dictionary DBMS Server, Data Server HWCI, DIM Server, LIM Server, HTTP Server, LIMGR Server, MSS server, CSS server, NetScape Enterprise Server, Planning HWCI, Science Processing HWCI, SDSRV, Sybase Replication Server, Sybase Server, Sybase SQL Server, V0 Gateway, Workstation, Xterm workstation, ACMHW(SDSRV HW), DDSHW(DDSRV HW), DIPHW(STMGH HW), DRPHW(DDIST HW), WKSHW(Working Storage HW CI), ICLHW(Ingest Client), DCE cell, X-terminal, ICLHW (Ingest client hardware), DCE cell.
- Software: AdvDBMSApplServer, AdvDBMSServer, Advertising Client Tool, AdvWAISServer, AITTTL CSCI, Data Distribution, Data Dictionary Tool, Data Server Interface, DDSRV CI, DESKT CI, DIMGR CI, Earth Science Search Tool, E-mailer Tool, Hypertext Authoring Tool, STNGT CI, INGST CI, LIMGR CI, Logger/Reviewer Tool, Mapping Layer, Mode Management Application, MSS Billing & Accounting Service, MSS Configuration Management, MSS Performance Management Application Service, MSS Security Management Service, MSS System Management Framework tool, News Reader Tool, PLANG CI, PRONG CI, Report Generation, Request processing, SDPTK, SDSRV CI, Session Management Tool, STGMT CI, User Comment Survey Tool, User Registration Tool, WKBCH CI, WWW Browser, MSS CI.
- Data: Site production plans, DPRs, AM-1 FDF Metadata for Orbit and Attitude data, AM-1 Orbit data, Ancillary data and associated metadata, Application Startup Files, ASTER, billing address and shipping address, Browse image files, CERES, DataBase, defined on-demand thresholds, Document Data Server Requests, Geographic location, HTML formatted documents, IGS metadata & browse data, including mailing address, Ingested and archived EOS AM Spacecraft ancillary data of varying quality, input data for the DPRs, L0-L4 data, MISR, MODIS, MOPITT, non-EOSDIS data products, package information request, Populated Data Dictionary Service Database, populated SDSRV database, processing, Production history, Production Plan, Real EOS instrument data, Schema information, Science Software Archive Packages, Search

Directory, Service availability status of all ECS services, Simulated EOS instrument data, Spacecraft schedules, Spectral band, Subsampling and averaging, Trend Management Data, user accounts data, user comment data, user comment survey form, User profile containing multiple addresses, user profile data, User Profile, User Registration Requests, valid values for DAR parameters, WRS data available for Subsetting, Science data products (for archive and browse).

- Tools: XRunner, LoadRunner, HP OpenView, Tivoli, EODS Interface (real or simulated), ASTER GDS Interface (real or simulated), Landsat 7 IGS Interface (real or simulated), FDF Interface (real or simulated), Client Interface (real or simulated), MSS Interface (real or simulated (to report mode status to)).

4.2.11.1 Testcase 1: User Access (B260.02.01)

This test verifies a user's capability to access the ECS system. This test also verifies the following capabilities which support user access: registration of new users, user authorization, display and modification of user profiles, request for changes to account priorities and authorized user services, user/client session capabilities, view service availability status, and the logging of all activities. Re-testing will be performed by executing portions of the following tests: B220.02.01, B220.02.02, B220.02.04, B220.02.05, B230.02.24, and B230.02.25.

Test Input:

Utilize the User Registration Tool to fill in the Registration form. Submit the registration form to the ECS system. Request the user profile data. Attempt to access ECS services for which the user has access. Attempt to access ECS services for which the user has no access.

Submit requests for a service for which the user is not currently authorized. Utilize the User Registration Tool to request and display the user's account data. Modify the user data and request different account priorities and data access. Submit the modified account to the ECS system. Modify the priorities and change the authorized services as a system administrator. Request the user's account data. Access a newly authorized service.

Submit several service requests to initiate multiple concurrent interactive sessions. Terminate a number of the sessions. Submit service requests to active sessions. Request status information on user sessions. Create session profiles for each user session. Create valid and invalid session profiles. Several profiles should contain parameters which are in the user profile. Create a new session with default values from an existing session.

Enable session logging. Input logable actions, including Service Requests, Service Request Status and Notifications. Input logable actions. Replay the User Session Log. Copy the session log to a file. Display the service availability status of all ECS services.

Create several sessions. Submit a suspend command for a session. Submit a suspend command for some of the active sessions. Resume Request is submitted for several of the suspended and active sessions. Submit termination Requests for several active and suspended sessions.

Test Output:

Registration message replies are received via the Internet. Messages are displayed showing status of the registration. When valid, the user profile information is displayed. The user profile data contains both user supplied and default information. When the user has privileges, access to data and services is allowed. When the user does not have sufficient privileges, access to data and services is denied.

The updated user account information is displayed at the user's workstation after the request is processed. Messages are displayed stating the outcome of the requests. The newly authorized service is accessed.

Concurrent service requests between the user interface client and one or more servers are issued. Sessions are initiated. Service requests are accepted and executed. Status information on user sessions is displayed. Valid session profiles are accepted. Invalid session profiles are rejected. Responses are displayed. A new session request is created with default values. Sessions are terminated.

Interactions of sessions are displayed in the session log when session logging is enabled. No logging is done when the logging is disabled. The session log is copied to a file and redisplayed as a flat file.

Service availability status is displayed.

Notification of suspension is sent to the requester. Suspended sessions are logged. Notification of resumption is sent to requester. Error messages are returned for invalid resumption requests. Resumed sessions are logged. Notification of termination is sent to requester. Terminated sessions are logged.

Success Criteria:

The user will be able to access the ECS system (a Common facilities request) using the Internet. The new user is able to register onto the ECS system. Valid user requests are processed correctly. A user can only access data and services based on the user's privileges. If the user lacks sufficient privileges, access to restricted data and services is denied and appropriate messages are returned to the user. Entered user profile data is correct. Authorized user services are displayed upon request.

User Profile data is correctly modified. Accesses can be changed based on the user profile modifications.

Service requests are executed successfully. User sessions are successfully initiated. User sessions are successfully terminated. Active sessions are not affected by terminated sessions. Status Information on user sessions correctly states the status of the sessions. The User can successfully connect to an existing user session with a mouse click. Valid session profiles are accepted. Invalid session profiles are rejected. The appropriate responses are displayed. Parameters which are in the current user profile can be used as defaults in new ECS service requests.

Session will be accurately logged when requested; Session will be logged otherwise. Session log can be successfully copied to a file and saved.

The Service availability status can be displayed and correctly indicate the status of ECS services.

Sessions can be successfully suspended. The client will be notified of suspended session. Valid requests for resumption of suspended sessions are accepted and the appropriate sessions are resumed. Requests for resumption of active sessions are rejected and error messages are displayed and logged. All requested termination of sessions is accepted and successfully terminated. Complete and accurate notifications are sent to the requester. Session activities are logged.

L3 Requirements:

EOSD2400#B, ESN-0010#B, ESN-1400#B, IMS-0020#B, IMS-0040#B, IMS-0050#B, IMS-0060#B, IMS-0070#B, IMS-0080#B, IMS-0100#B, IMS-0130#B, IMS-0140#B, IMS-0180#B, IMS-1300#B, SMC-7300#, DADS0700#B, IMS-0120#B

L4 Requirements:

C-CSS-10600, C-CSS-10610, C-CSS-10620, C-CSS-10630, C-MSS-75100, C-MSS-75105, C-MSS-75110, C-MSS-75130, C-MSS-75140, C-MSS-75100, C-MSS-75115, S-CLS-13090, S-CLS-13380, S-CLS-13390, S-CLS-13400, S-CLS-15760, S-CLS-13115, S-CLS-00790, S-CLS-12540, S-CLS-12570, S-CLS-12580, S-CLS-12700, S-CLS-13160, S-CLS-13170, S-CLS-13200, S-CLS-13210, S-CLS-13460, S-CLS-13470, S-CLS-11050, S-CLS-12670, S-CLS-12680, S-CLS-12690, S-CLS-13060, S-DSS-00290, S-DSS-01220, S-DSS-01440, S-DSS-00300, S-DSS-01310, S-DSS-01330, S-DSS-01440, S-CLS-13240

4.2.11.2 Test Case 2 System Ingest (B260.02.02)

This test verifies that the software is capable of ingesting and archiving EDOS data at GSFC, ASTER GDS, data at EDC Landsat 7 IGS data at EDC, and FDF data at GSFC. The test will ensure that the following occurs:

- LO-L4 data
- Ancillary data
- Metadata associated with Ancillary data
- FDF Orbit data (AM-1 instruments)
- FDF Metadata for Orbit and Attitude data (AM-1 instruments)
- Real EOS instrument data to support pre-launch checkout of the ground system
- Simulated EOS instrument data to support pre-launch checkout of the ground system

Re-testing will be performed by executing portions of the following tests: B240.02.01, B240.02.02, B240.02.03 and B240.02.04.

Test Input:

After the delivery notices are received, a series of EDOS, ASTER GDS, and Landsat7 IGS Ingest Data Request are submitted from media. Invoke ingesting of data (mount media).

After a delivery notice is received, an FDF Ingest Data Requested is submitted via electronic ftp.

Once Ingest places the data onto the staging disk, Data Server is automatically sent an archive message from Ingest to archive the data in the Science Data Server. The Science Data Server automatically informs Storage Management that data is available for archive.

Test Output:

EDOS, AASTER, GDS, and Landsat7 IGS media must be mounted and accessed. Data must be retrieved from the media. FDF data must be successfully transferred via the ftp. Data preprocessing must occur to ensure the validity of the media and electronic ingested data, and the data must be written to the staging disk.

For every Ingest Request the data are successfully placed on the staging disk. The Data Server will store the data and will track the exact location of the data stored in the Science Data Server. The following data are stored in the data server: The LO-L4 data, Ancillary data and associated metadata, AM-1 Orbit data, AM-1 FDF Metadata for Orbit and Attitude data, Real EOS instrument data, and Simulated EOS instrument data.

Success Criteria:

For every Ingest Request the data are successfully placed on the staging disk. The Data Server will store the data and will track the exact location of the data stored in the Science Data Server. The following data are stored in the data server: The LO-L4 data, Ancillary data and associated metadata, AM-1 Orbit data, AM-1 FDF Metadata for Orbit and Attitude data, Real EOS instrument data, and Simulated EOS instrument data.

L3 Requirements:

DADS0120#B, DADS0130#B, DADS0140#B, DADS0145#B, DADS0170#B, DADS0175#B, DADS0190#B, DADS0200#B, DADS0210#B, DADS0260#B, DADS0281#B, DADS0282#B, DADS0320#B, DADS0370#B, DADS0440#B, DADS0450#B, DADS0770#B, DADS0780#B, DADS0800#B, DADS2180#B, EOSD0030#B, EOSD1607#B, EOSD1608#B, IMS-0330#B, LAND-0010#B, LAND-0090#B, LAND-0100#B, SDPS-0020#B, PGS-1025#B, DADS0190#B, DADS0450#B, DADS1160#B, DADS1550#B, DADS2330#B, EOSD2400#B, PGS-0630#B, PGS-0960#B, PGS-1025#B

L4 Requirements:

S-INS-00401, S-INS-00402, S-INS-00600, S-INS-00730, S-INS-00787, S-INS-00790, S-INS-03103, S-DSS-03002, S-DSS-03004, S-DSS-03006, S-DSS-03050, S-DSS-03060, S-DSS-03100, S-DSS-03122, S-DSS-03124, S-DSS-03190, S-DSS-03200, S-DSS-03460, S-DSS-03470, S-DSS-03492, S-DSS-03494, S-DSS-20450, S-DSS-20457, S-DSS-20460, S-DSS-20465, S-DPS-41100, S-DPS-41110, S-DPS-41140, S-DPS-41160, S-DPS-41170, S-DPS-41190, S-DPS-41200, S-DPS-41120, S-DPS-41130, S-DPS-41150, S-DSS-03330, S-DSS-03700, S-DSS-04330, S-DSS-04620, S-DSS-21430

4.2.11.3 Test Case 3: System Data Processing(B260.02.03)

This test verifies that processing and timing of data staging occur, that replan events can be listed, and that planning can kick off data preprocessing of EDOS L0 data. This test also verifies the processing scenario involving the Data Server, Processing, and Planning, and the functions

involved with DAR parameters, along with functions associated with DAR submittal, distribution request functionality, and that the user can construct and submit production requests. Test case 3 and 4 will be performed simultaneously in order to stress the Release B system with both data request and searches which will involve data processing. Re-testing will be performed by executing portions of the following tests: B230.02.08, B230.02.09, B230.02.10, B230.02.11, B230.02.12, B230.02.13, B230.02.14, B240.02.05, B240.02.07, B240.02.08, and B240.02.09..

Test Input:

On-Demand Production Requests some which exceed pre-defined thresholds and some that are invalid, are initiated from the Data Server. Active plan in progress with numerous DPRs. Some PGEs requiring input data staging. DPRs which are canceled and PGEs which are suspended, some during and some after data staging, some after data staging. User-configurable delay parameter which specifies the maximum amount of time data can be delayed without issuing a replan notification. A DAS from the Data Server which indicates data will be arriving on time, later than previously scheduled but prior to the user-configured delay, and later than the user-configured delay parameter. EOS AM Spacecraft ancillary data which is provided to processing from the Data Server.

Ensure valid values for DAR parameters are present. View valid values. Submit the new DAR. Submit DARs with valid and invalid parameters. Display DARs that contain instrument configurable parameters. Ensure ASTER DAR parameters are present. Parameterize ASTER DARs.

Display EOS-AM spacecraft location projections. Access the guide. Display ASTER instrument nominal and non-nominal view swaths. Supply a variety of view angles. Request data acquisition schedules and plans as both authorized and unauthorized users. Complete and submit DARs.

Formulate DARs. Construct a product request associated with a DAR. Issue a subscription request associated with a DAR. Submit the product request and the DAR. Submit a number of DARs. Display the user session logs. DARs are in a variety of states. Submit updates to DARs. Request DAR status. Submit operational commands for display of outstanding DARs. Some of the DARs are ASTER observational sequences.

Submit series of Data Requests for attitude and repaired orbit data. Delete a few Data Requests that are still being processed. Request access to compound data type services.

Submit a number of distribution requests. Half of the requests ask for off-line distribution and the other half ask for on-line distribution. For data requests, request inclusion of universal references to the appropriate documentation for the requested data, the tools needed to read the requested data, and an ASCII file describing each reference. Submit an update to some distribution requests prior to the shipment of data. Submit an update to some distribution requests after the shipment of data. Submit an invalid update. A number of documents are present in the system. Submit a number of requests for revisions of given documents. Submit a number of requests for new documents based on topical keywords. Complete data request for non-EOSDIS data products. Request to preview billing costs. Affirm, cancel and modify a number of EOSDIS search requests after reviewing the total amount that will be billed.

Construct and submit a variety of production requests. Requests contain mailing, billing and shipping addresses. Production requests will contain valid and invalid requests. Request priority processing for a variety of production requests. Processing schedules are present. Display processing schedules. Several of the data requests conclude processing. A number of products are being reprocessed. Request reprocessing status of products. A number of the requests will not be completed within the estimated time.

Test Output:

Input data staging is initiated. Some DPRs are canceled and some PGEs are suspended. Data staged for a canceled DPRs is deleted if no other DPR needs it. Input data staging is completed for suspended PGE's. Response messages are displayed.

Notifications are received by the Operations Staff indicating deferred production requests and invalid production requests. Notifications are sent from Processing to Data Server indicating a data product is ready to be archived. Processed data products are archived.

Notifications indicating the user-configurable parameters have been set. DASs and on-demand production requests are received. Replan notifications are received.

Metadata will be updated to note missing or erroneous data. A report will be generated which specifies the quality of the onboard orbit data.

Valid values are displayed. DAR parameters are saved. DAR parameters are displayed in new DAR. DAR parameters are saved again. DAR is submitted. Invalid parameters are rejected and a response message is displayed. Valid parameters are accepted. DAR disposition is provided. DARs are displayed. ASTER DARs are displayed.

For date/time range entries the DAR timeline window is updated. For selection of time ranges the DAR submission window is updated. For lat/long coordinate entries the DAR map display is updated. For selection of area the DAR submission window is updated.

DAR submission window, EOS-AM spacecraft location projections, guide, view swaths are displayed. Requests from authorized users are accepted. Schedules and plans are displayed. Requests from unauthorized users are rejected. Response messages are returned. DARs are submitted. Response message is displayed.

The DAR submission window is displayed. DARs are formulated. A product request is constructed, associated with a DAR and submitted. A subscription request is issued, associated with a DAR. Response messages are displayed. DAR submittal is recorded in user session logs. User session logs are displayed. Updates are accepted for existing DARs. Request for DAR status is accepted. DAR status is displayed. Outstanding DARs are displayed.

Data Requests are received and properly logged. Data Requests are deleted from the Data Request queue. Compound data type services are accessed.

Requests are submitted and accepted. A response message is returned. Valid updates are accepted. Invalid updates are rejected. Response messages are returned. Preview of billing costs is provided. EOSDIS search requests are affirmed, canceled or modified according to request. Desktop issues periodic distribution status request. Responses are returned. Notification is displayed to the user. Data products are returned to the user electronically.

Production requests are constructed. Production requests are submitted. Confirmation or rejection is returned to user. Estimates of how long before product is ready for delivery are sent and displayed. Messages indicating the amounts of data expected to be returned are sent and displayed. Processing schedules are displayed. A data request status is received and displayed. Reprocessing status is displayed. Notification is displayed to the user.

Success Criteria:

Input data staging begins at a time based on the predicted start of PGE execution and the estimated data staging time. Data staging is canceled when a DPR is canceled. Data staged by a canceled DPR is deleted when no other DPR needs the staged data. Staged data will not be deleted if it is needed by another DPR. Data staging for a suspended PGE will be completed, and the PGE will be suspended.

Data Server will check to make sure the data exists to complete the on-demand processing requests and will forward only those requests to Planning. Data Server can distinguish between valid and invalid updates and will submit valid updates to on-demand processes to Planning. Planning will compare the on-demand processing requests to operator-set thresholds and forward the appropriate on-demand processing requests to Processing and defer the processing requests which exceed thresholds. Processing will process the requests successfully. The final data product will be retrieved by Data Server. The appropriate notifications will be received.

Replan notifications are received for the following conditions: the arrival of a new DAS indicating that data will be delayed by more than the user-configured delay parameter; and the submission of an On-Demand Production Request with resource requirements which exceed predefined thresholds. Replan notifications are not received for any other conditions.

The Data Server will make the EDOS L0 data available to Processing. Planning will kick off the DPREP process at the specified time. The entry into the metadata of any missing and/or erroneous data is successful. A report which correctly notes the quality of the onboard orbit data is created. The storing of the data in a file for the SDPTK as specified in the test case description is successful.

Valid values for DAR parameters are successfully viewed. Previously saved DAR parameters are successfully brought into a new DAR, edited, and saved. DARs are successfully submitted. DAR parameters are successfully constraint checked and validated. DAR disposition is provided in response to the submittal of a DAR. Instrument specific default settings for DAR instrument configurable parameters are provided. ASTER DARs are successfully parameterized using ASTER DAR parameters.

Time-related data in the DAR timeline window and in the DAR submission window is synchronized. Geographic data in the DAR map display and in the DAR submission window is synchronized.

A product request is successfully constructed and associated with a DAR. A subscription request is successfully issued and associated with a DAR. All DARs submitted are successfully viewed in user session log. Existing DARs are successfully updated. DAR status is displayed to the

user upon request. The operational staff can successfully display DARs that are outstanding. DARs for ASTER observational sequences are sent to the ASTER GDS.

All Data Requests submitted are successfully received and logged. Data Requests are successfully deleted by the user and are no longer in the queue. Access is successfully granted to compound data type services.

The user can successfully request standard product software and associated documentation to be distributed off-line or on-line.

Production requests are successfully constructed and submitted. Confirmation or rejection is returned to the user.

L3 Requirements:

DADS0910#B, IMS-1010#B, PGS-0240#B, PGS-0160#B, PGS-0165#B, PGS-0250#B, PGS-0285#B, PGS-0380#B, SDPS0026#B, PGS-0295#B, DADS0140#B, DADS0770#B, DADS0780#B, DADS0800#B, EDOS-4.2.2-#B, EDOS-4.2.3-#B, EDOS-4.4.2.1-a#B, EDOS-4.4.2.1-b#B, EDOS-4.4.2.4#B, EDOS-4.4.3.1-a#B, EDOS-4.4.3.1-b#B, EDOS-4.4.3.4#B, EDOS-4.4.3.5-#B, EDOS-B.4.2#B, EDOS-C.4.2#B, EDOS-C.4.3#B, PGS-0455#B, PGS-0456#B, PGS-0458#B, PGS-0500#B, PGS-0520#B, PGS-1015#B, PGS-1100#B, SDPS0020#B, ASTER-0010#B, ASTER-0110#B, ASTER-0120#B, DADS0175#B, DADS0525#B, ADS1010#B, DADS2370#B, IMS-0030#B, IMS-0050#B, IMS-0120#B, IMS-0120#B, IMS-0140#B, IMS-0280#B, IMS-0280#B, IMS-0500#B, IMS-0510#B, IMS-0510#B, IMS-0540#B, IMS-0550#B, IMS-0665#B, IMS-0730#B, IMS-0740#B, IMS-0740#B, IMS-0750#B, IMS-0800#B, IMS-0820#B, IMS-0830#B, IMS-0840#B, IMS-0915#B, IMS-0920#B, IMS-0920#B, IMS-0960#B, IMS-0970#B, IMS-1010#B, IMS-1010#B, IMS-1040#B, IMS-1050#B, IMS-1070#B, IMS-1070#B, IMS-1071#B, IMS-1072#B, IMS-1080#B, IMS-1080#B, IMS-1090#B, IMS-1100#B, IMS-1130#B, IMS-1140#B, IMS-1140#B, IMS-1150#B, IMS-1160#B, IMS-1170#B, IMS-1170#B, IMS-1180#B, IMS-1190#B, IMS-1195#B, IMS-1210#B, IMS-1220#B, IMS-1230#B, IMS-1230#B, IMS-1260#B, IMS-1300#B, IMS-1310#B, IMS-1320#B, IMS-1340#B, IMS-1350#B, IMS-1650#B, IMS-1700#B

L4 Requirements:

S-DPS-20691, S-DSS-01080, S-DSS-01200, S-PLS-00100, S-PLS-00130, S-PLS-00140, S-PLS-00150, S-PLS-00160, S-PLS-00170, S-PLS-00190, S-PLS-01210, S-DPS-20694, S-DPS-20695, S-DPS-20696, S-PLS-01230, S-PLS-02420, S-PLS-02430, S-DPS-30300, S-DPS-30320, S-DPS-30600, S-DPS-30710, S-DPS-30750, S-DPS-30770, S-DPS-30900, S-DPS-30910, S-DPS-30920, S-DPS-31010, S-DPS-31030, S-CLS-10230, S-CLS-10250, S-CLS-10860, S-CLS-10870, S-CLS-10970, S-CLS-0980, S-CLS-11010, S-CLS-11020, S-CLS-11020, S-CLS-11030, S-CLS-11040, S-CLS-11130, S-CLS-11140, S-CLS-11150, S-CLS-11160, S-CLS-11170, S-CLS-11170, S-CLS-11210, S-CLS-13250, S-CLS-13600, S-CLS-13610, S-CLS-13750, S-CLS-13760, S-CLS-13770, S-CLS-13780, S-CLS-13790, S-CLS-13800, S-CLS-13820, S-CLS-13830, S-CLS-13840, S-CLS-13850, S-CLS-13860, S-CLS-13870, S-CLS-13880, S-CLS-13890, S-CLS-13900, S-CLS-13920, S-CLS-13940, S-CLS-13960, S-CLS-14400, S-CLS-14410, S-CLS-14420, S-CLS-14430, S-CLS-14440, S-CLS-14450, S-CLS-15660, S-CLS-15820, S-CLS-15840, S-CLS-15900, S-CLS-15990, S-CLS-16000, S-CLS-16010, S-DSS-00200, S-DSS-

00270, S-DSS-00280, S-DSS-01790, S-DSS-04730, S-DSS-04740, S-DSS-04745, S-DSS-04760

4.2.11.4 Test Case 4: System Searches (B260.02.04)

This test demonstrates the ability of the ECS to allow users to construct and perform simple and complex searches. Capabilities include inventory searches, simple inventory searches, displays of the associated granule browse images, and production history searches. Search criteria will be developed based on user scenarios. Test case 3 and 4 will be performed simultaneously in order to stress the Release B system with both data request and searches which will involve data processing. Re-testing will be performed by executing portions of the following tests: B230.02.01, B230.02.02, B230.02.03, B230.02.04, and B230.02.05.

Test Input:

Enter search using the Earth Science Search Tool (ESST) invoked from the desktop. Submit the search. Request to view products processing history.

Search scenarios based on available data. Input will include Source/Platform, Sensor, Geophysical Parameters, Processing Level, Dataset Name, Data Center ID, and Temporal Intervals.

Search scenario based on available browse data. A series of search requests. A Search Status Request for a specified active Search Request. Request the workbench to poll the status of a Search Request at a user selectable time interval. A request for accumulative results for that search and a request for Search Results accumulated since the last Search Status Request for that Search Request.

Ensure that production history is present. Search production history on any combination of production history metadata attributes. Display search results.

Test Output:

Result screen is displayed containing metadata of granules meeting the search criteria for complex searches. Processing history of products are displayed.

A description of granules in the ECS inventory that satisfy the search criteria. Inventory results include: data set name, platform, sensor, geographical coverage, time range and availability of coverage map and browse. Search requests will also be logged.

Inventory results and associated browse images. Browse images will be displayed.

Search Status Request results for specified active Search Request and accumulated Search Status Request results. Status of Search Requests are displayed.

Search results are returned and displayed.

Success Criteria:

This test is considered successful if each inventory search returns the metadata of the granules meeting the search criteria. The Client must provide informational messages to users indicating a query is being executed. Errors obtained while the search is being performed must be reported to

the user. The inventory search must also provide information concerning product processing schedules and processing history.

Each inventory search returns descriptions of the granules that meet the search criteria. All service requests must be logged as well as the termination or successful completion of service requests.

The browse image is displayed on the screen for selected granules. The client must also provide messages to the users indicating the status of the query.

All Search Status Requests submitted are successfully received and results are successfully returned to the requester. Results are compared to a monitored log for accuracy. The user is able to request an update of the status of a previously submitted Search Request. The workbench successfully polls the status of a Search Request at a user selectable time interval.

The user successfully searched production history on any combination of production history metadata attributes.

L3 Requirements:

IMS-0500#B, IMS-0545#B, IMS-0610#B, IMS-0660#B, IMS-0665#B, IMS-0670#B, IMS-0740#B, IMS-0920#B, IMS-0930#B, IMS-0950#B, IMS-0980#B, IMS-1300#B, IMS-1620#B

L4 Requirements:

S-CLS-10200, S-CLS-10200,S-CLS-10930, S-CLS-13550, S-CLS-13730, S-CLS-13740, S-DMS-30320, S-DMS-30310, S-DMS-30340, S-DMS-30345, S-DMS-30550,S-DMS-30550, S-DMS-30660, S-DMS-30670,S-DMS-30690, S-DMS-30695, S-DSS-00115, S-DSS-00116

4.2.11.5 Test Case 5: Fault and Performance Degradation Data (B260.02.05)

This test verifies the capability of the Fault Management Application service to receive notifications of detected fault degradation of performance data. This test also verifies the capability of the Fault Management Application service to request notifications of detected fault performance degradation data. The fault management application service has the ability able to receive summarized notifications and performance degradation data from the Site Fault Management Applications, EBnet, ASTER GDS, NOAA(SAA), Landsat(MMO), NSI, and NOLAN.

Test Input:

Site faults management applications, EBnet, ASTER GDS, NOAA(SAA), Landsat(MMO), NSI, and NOLAN summarized fault notification.

Test Output:

Alarms detecting the fault and degradation of performance data, management framework visually updates to the fault location, and event log updates with fault notification. Also, there will be alarms for detecting the fault and performance degradation of data.

Success Criteria:

This test is considered successful if the MSS EMC Fault Management Application Service detect the fault and performance degradation data, events, and the fault and degradation from Site faults management applications, EBnet, ASTER GDS, NOAA(SAA), Landsat(MMO), NSI, and NOLAN.

L3 Requirements:

EOSDI710#B, ESN-0800#B, SMC-3390#B, SMC-4310#B, NSI-0050#B

L4 Requirements:

C-MSS-60171, C-MSS-60161, C-MSS-60181

4.2.11.6 Testcase 6: System Management Information (B260.02.06)

This test verifies the system has the capability to collect information about ECS and forward this information to the MSS where reports will be generated. This test will also verify the capability to collect and provide different types of data that will be provided to the MSS from the Science Data Server:

- Configuration Management data will be provided to the MSS using a MSS provided Configuration Management API
- Accounting Management data will be provided to the MSS using a MSS provided Accounting Management API
- Accountability Management data will be provided to the MSS using a MSS provided Accountability Management API
- Performance Management data will be provided to the MSS using a MSS provided Performance Management API
- Security Management data will be provided to the MSS using a MSS provided Security Management API
- Scheduling Management data will be provided to the MSS using a MSS provided Scheduling Management API

Re-testing will be performed by executing portions of the following tests: B250.02.03, B250.02.04, B250.02.05, B250.02.07, and B251.02.04

Test Input:

Request is issued by individual user to collect the utilization of ECS services. Information is feed into the Report Generation Application and used to generate an audit report.

During a Science Data Server interface initiated from MSS, issue a request to provide the following data during a user-initiated product request: Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data.

Test Output:

Audit reports, user account summary report, log files, configuration management report, performance reports, and activity reports are generated.

The Science Data Server collects and provides MSS with Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data.

Success Criteria:

Desired reports are generated and printed. The Science Data Server must provide Configuration Management Data, Accounting Management Data, Accountability Management Data, Performance Management Data, Security Management Data, and Scheduling Management Data to the MSS. The MSS must generate a report for each data type with the following information:

- Configuration Management Data Report must contain data regarding specific versions of individual software, data, and hardware items as they relate to each other, and information which describes changes to such configuration.
- Accounting Management Data Report must contain data used for accounting and billing purposes. This information includes: the request identifier, the date and time of the request, the media cost, the CPU utilization, the personnel costs, the shipping and handling costs, the networking costs, and the archival costs (as applicable).
- Accountability Management Data Report must contain information about ECS services utilized by the user who initiated the Science Data Server session. (This is done for purposes of accountability and an audit trail.)
- Performance Management Data Report must track the performance of individual system components for resource utilization.
- Security Management Data Report must report, track and alert MSS of system activities (such as logon and logoff).
- Scheduling Management Data Report must provide information about schedules for startup, shutdown, restart, and reservations of SDPS resources.

L3 Requirements:

DADS0901#B, IMS-1620#B, PGS-0310#B, SDPS0010#B, SMC-8800#B, SMC-8840#B, SMC-8890#B

L4 Requirements:

C-MSS-75001, C-MSS-75015, C-MSS-75100, C-MSS-75110, C-MSS-78010, C-MSS-78030, C-MSS-78100, C-MSS-78110, C-MSS-78120, C-MSS-78130, C-MSS-78140, C-MSS-78150, C-MSS-78160, C-MSS-78180, C-MSS-78190, C-CSS-21220, C-MSS-92080, C-MSS-92090, C-MSS-92120, C-MSS-92160, C-MSS-92460, C-MSS-92470, S-DSS-00824, S-DSS-00836, S-DSS-00844, S-DSS-00853, S-DSS-00823, S-DSS-00835, S-DSS-00843, S-DSS-00852, S-DPS-20150, S-PLS-01460, S-DSS-00826, S-DSS-00838, S-DSS-00846, S-DSS-00855, S-DSS

00822, S-DSS-00829, S-DSS-00842, S-DSS-00851, S-DSS-00822, S-DSS-00823, S-DSS-00824, S-DSS-00825, S-DSS-00826, S-DSS-00827

4.2.11.7 Testcase 7: Concurrent System Execution Modes (B260.02.07)

This test verifies that the system has the capability of concurrent execution of an operational mode, test modes, and has the capability to detect these conditions. In addition this test will also verify that the user can execute Science Data Server functions simultaneously in off-line and operational mode (from the same workstation and from different workstations). This test will also verify that data integrity is maintained regardless of which mode the system is processing. The Science Data Server applications will be verified to ensure that the application can register within their mode-associated namespace in the Communication Subsystem (CSS) name server prior to application execution. A mode identifier will be incorporated for CSS name service lookups for the application to run in test mode. The Science Data Server will be verified to ensure that the mode identifier in the activity log records entries for cost and accounting data. This test will verify that the Science Data Server is capable of using simulated time values supplied by CSS when executing in non-production mode. Finally, performance data will be collected and reviewed for predetermined areas. Re-testing will be performed by executing portions of the following tests: B250.02.01, B250.02.02, B230.02.26, B230.02.27 and B240.02.12.

Test Input:

Initialize the operational mode environment and test mode environment in the mode management script for different subsystem software. Subsystem software is launched and shutdown after all testing of subsystem are verify .

Log onto the ECS system on two client workstations. On one workstation, create an application's home directory in the operational mode and configure the application's startup file with operation mode ID (OPs). Bring up the application process in the operational mode. Repeat the actions to start application processes with a test mode ID on both client workstations. For the application on the second workstation, use a different time value for the test mode. Using the three applications, simultaneously access databases which have matching operational or test mode IDs. Attempt to change the mode identifier of an application. Check the transaction logs for the mode identifier.

Bring up the application process in the operational mode, read and write data from and to the database. Repeat the actions with test mode directory and mode ID, and bring up the application in the test mode on the same machine as the operational mode. Verify the data read from the test mode database is not retrieved from the operational mode database. Verify the data written from the test mode database is not entered to the operational mode database. Attempt to change the mode of the operational and test environments.

PDPS is running in operational mode with an active site production plan and an active site resource plan. The active plans will include several read/write situations. Initiate a PDPS test mode environment utilizing the same machines as the operational mode environment. The test environment will include several read/write situations. Utilize a user login id for some of the test mode testing. Attempt to change the modes of the test and operational environment. Finally,

from a valid system user, simultaneously start Science Data Server processing in off-line and operational modes on the same workstation. Attempt to change the modes that have been initialized. In both modes, archive several science data products, and browse the Science Data Server

Test Output:

The subsystem software will start with assigned mode, the software will be registered with the System Management Framework tool and an object symbol will be displayed with an appropriate label. The cause of a software fault which will be detected by the MSS System Management Framework tool and an appropriated notification is sent to the MSS and logged in a file.

Test mode environments must be brought up. Error messages must be received when the operator attempts to change the modes of the test and operational environments. HP OpenView must show both operational and test modes of the applications executing. Output must be received from the Science Data Servers that are running in operational and test modes. Cost and accounting data must be logged.

Success Criteria:

The System Management Framework shows the successful execution of the operational and test environment. The performance data is collected, notification is sent out and a report is generated and printed.

HP OpenView shows the successful initialization and concurrent execution of the operational and test modes. The client and data management processes can link to appropriate server applications. The modes of the retrieved data match the modes of the requesting applications. Applications in different modes execute simultaneously on the same and different workstations. The application operates correctly using a simulated time. The mode of an application cannot be reset after start-up. The mode is correctly displayed in the session logs. The simulated time entered for test mode will be accepted and accurately utilized as the system time for that test mode environment. The mode (operational or test) will not be changeable during execution. An error message is generated to alert the operator when attempts are made to change initialized test and operational modes. The activity log will contain entries for cost and accounting data. Valid production cost and accounting logs will not be altered by the test modes. The test mode processes will interact exclusively with the appropriate test mode database(s). The operational mode processes will interact exclusively with the operational mode databases.

L3 Requirements:

IMS-1620#B, DADS0901#B, DADS0925#B, DADS1320#B, DADS1330#B, IMS-1760#B, EOSD1710#B, ESN-0800#B, SDPS0140#B, EOSD0510#B, EOSD0630#B, EOSD0710#B, SDPS0140#B, PGS-0870#B

L4 Requirements:

S-DSS-00822, S-DSS-00823, S-DSS-00824, S-DSS-00825, S-DSS-00826, S-DSS-00827, S-DSS-00837, S-DSS-00845, S-DSS-00854, C-MSS-66001, C-MSS-66121, C-MSS-66123, C-MSS-66141, C-MSS-66151, C-MSS-66161, C-MSS-66171, S-DSS-00830, S-DSS-10233, C-MSS-60161, C-MSS-60181, S-CLS-01700, S-CLS-01710, S-CLS-01740, S-CLS-01750, S-CLS-

01760, S-CLS-01770, S-CLS-01780, S-CLS-01790, S-CLS-017100, S-CLS-17110, S-CLS-17140, S-CLS-17150, S-CLS-17160, S-CLS-17170, S-CLS-17180, S-CLS-17190, S-DMS-01090, S-DMS-01091, S-DMS-01094, S-DMS-01095, S-DMS-01096, S-DMS-01097, S-DMS-01098, S-DMS-01099, S-DMS-11080, S-DMS-11081, S-DMS-11084, S-DMS-11085, S-DMS-11086, S-DMS-11087, S-DMS-11088, S-DMS-11089, S-DMS-23920, S-DMS-23921, S-DMS-23924, S-DMS-23925, S-DMS-23926, S-DMS-23927, S-DMS-23928, S-DMS-23929, S-DMS-23020, S-DMS-23021, S-DMS-23024, S-DMS-23025, S-DMS-23026, S-DMS-23027, S-DMS-23028, S-DMS-23029, S-IOS-60370, S-IOS-60371, S-IOS-60374, S-IOS-60375, S-IOS-60376, S-IOS-60377, S-IOS-60378, S-IOS-60379, S-DPS-24000, S-DPS-24010, S-DPS-24040, S-DPS-24050, S-DPS-24060, S-DPS-24070, S-DPS-24080, S-DPS-24090, S-PLS-00741, S-DSS-04800, S-DSS-04810, S-DSS-04820, S-DSS-04830, S-DSS-04840, S-DSS-04850, S-DSS-04860, S-DSS-04870